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Crisis or renewal: higher education in the 1980s

Mentality of the menopausal university

To try to penetrate the mentality - in a comprehensive French sense - even of an individual is probably to steer a blind course through a shoal of simplifications. When the subject is individuals long dead or contemporary collectivities like social groups (the working class) or institutions (universities) the navigation gets very tricky indeed.

Yet the attempt to describe mentalities, as an intellectual technique, opens up fascinating and creative perspectives which are extremely seductive. Was it even possible for seventeenth century man not to believe in God, ask French historians. What was the quality of romantic love between men and women before the eighteenth century and outside the privileged classes, ask their British counterparts. Sociologists, psychologists, even English dons, all play the mentalities game.

With such precedents in mind, is there any point in trying to capture, however anecdotally and provisionally, the mentality of the modern university? This is not the same as mood (as in "moody") which implies a superficial, ephemeral, and even irrational response to immediate events. At present the mood in Salford, Aston and the other universities hit hard by the UGC's selectivity strategy is probably one of anger, frustration, and even depression, while the mood in some of the universities most favourably treated may even be verging, most unwisely, on the euphoric.

Mentality, in contrast, describes a more sophisticated, permanent, and even occasionally rational reaction to movements of long lasting significance whether political, economic, social, or intellectual. To revert to last week's metaphor the mentality of the university reflects its *longue durée*. So the necessary questions are not about the cuts or possible redundancies but about subjects that are common to all universities whether they have the favour of Dr Parkes or not (or if they are not common they are broken down on a disciplinary rather than institutional basis).

Among them are: how strong is the faith in the liberal goals and purposes indicated by Robbins almost 20 years ago? Is more or less satisfaction obtained from teaching students today than either before or during the Robbins boom? Is pessimism about the cuts compensated for by optimism about the academic progress of one's discipline, or does the one drag down the other? How can intellectual creativity thrive in a "steady-state" or declining university system? Do universities have weightier obligations to society than they had a generation ago, either because of the three-fold expansion of students or because of the slowing of "natural" social mobility through occupational change and economic growth?

I argued, very tentatively, last week that the Robbins expansion of the universities, which was seen at the start and still by Lord Robbins as an experiment in public-spirited pedagogy (broader and more general first degrees), actually appeared to be a period of creeping academism and of a burgeoning intelligentsia. But it is important not to carry this line of argument too far.

Old values and traditional commitments are still strong in Britain's 45 universities. Indeed what is perhaps most remarkable is how resilient these values and commitments have proved to be in the face of the great and potentially destabilizing expansion of the number of students that has taken place over the past generation. Unlike universities in the United States and most of Europe British universities still place a high

value on the teaching of undergraduates, usually one of the first things to go to the wall in the movement to a mass system. Research in British universities, even in the more sensitive areas of inquiry, is not politicized on the foreign pattern, either in the sense that disciplinary networks have been irreparably torn apart by academic sectarianism or in the equally important sense that our universities have not yet become the foci of an oppositional intelligentsia at silent war with political society (although Mrs Thatcher is doing her best to bring this about).

The second temptation is to seize on a slogan metaphor - the menopausal university, perhaps? After all, a case can be made for the advancing middle age of the British university. The Robbins expansion is now well in the past. The 1960s were the decade of university expansion: in the 1970s the main thrust of expanding student numbers was in the polytechnics and colleges. No new universities have been created either by foundation or promotion for 15 years. The latest cuts are simply the culmination of cut-backs in public expenditure on universities that have been made with depressing regularity since the first crisis of 1973. Any empires that were built in British universities in the 1950s and 1960s have seen their foundations crumbling for half a decade or more.

Projected forwards the metaphor of middle age looks equally accurate. After all, with only a trickle of new appointments (if that), the academic community will quite literally age. The prospects for the revival of large-scale public investment in the expansion of the universities on the Robbins pattern appear almost hopelessly remote over the next decade (any revival is much more likely to boost the polytechnics and colleges). So it can be argued that the most likely pattern is one of increasing intellectual conservatism and detachment from wider social and pedagogic goals as the arteries of the academic profession harden to be followed by a new outbreak of radicalism towards the end of the century as the retirement of the Robbins generation opens the way to substantial numbers of new recruits.

But just as the thesis of creeping academism and a burgeoning intelligentsia has to be severely qualified by attention to the contrary evidence that the peculiar quality of the British university has been surprisingly well preserved, so this second thesis of a cycle of radicalism/growth followed by conservatism/stagnation has to be equally critically examined. There is firm evidence of an aging academic profession, of slackening public investment in universities (to put it as civilly as possible), and that morale among university teachers is lower than it has been for a generation or more probably too. But there is no real evidence that academic creativity will be blunted by these factors or that academic standards are about to slip into some kind of somnolence.

In fact, even the most superficial attempt to penetrate the mentality of the modern British university throws up a whole series of paradoxes and inconsistencies which make it difficult to believe that any single hypothesis can be an adequate description. The first paradox is that while many might have expected there to be a revolution against the more "social" ambitions of Robbins, a growing conviction that the universities had been the victims in the 1970s of the 1960s, there seems to be a re-sounding conviction that any place, Professor R. V. Jones up in Aberdeen is as much a prophet

crying in the wilderness in 1981 as he was 20 years before.

At the most there is a feeling that the universities would benefit from a period of calm (although not, of course, of cuts) after two decades of expansion. But even among the more conservatively inclined the emphasis is on consolidation of what are almost universally accepted as gains and successes in the 1950s and 1960s, not on some reactionary return to some pre-Robbins golden age. Much more common, indeed, is a sense of regret that the Robbins experiment was not carried through with sufficient vigour.

The reasons for this unbroken faith in Robbins are probably many. Of course, some are practical and selfish. The Robbins wave created new institutions, departments, careers. But perhaps more interesting is the light this faith sheds on the stubborn streak of altruism that runs through British universities despite frequent (and often accurate) assertions about their commitment to traditionalism and elitism. Perhaps it could be called, a little unfairly, the Lady Bountiful aspect of the British university. But whatever it is called, this commitment to the expansion of university education, founded on a firm belief in the high quality of such education seems to have survived both the disdain of the anti-Robbins *ultras* and the depredations of the sad Mr Carlisle in good shape. The social conscience of the universities is not as vestigial as its naive critics and real enemies imagine.

The reason why is probably that the hopes for a better and broader future embodied by Robbins seem natural and right to majority opinion within the universities. They seem to fit so exactly the humanist (although elitist) preoccupations of the traditional university which I tried to describe last week. Perhaps it is because the expansion of opportunity encouraged by Robbins had such traditional roots that the commitment to such an expansion has remained so strong. Robbins was not offering mass higher education *à la American*, let alone *Nanterre* but something much more in tune with British ideas of what a university is for. Another, barely noticed, factor is the way in which the greater democracy in universities today allows younger (and more liberal?) academics a stronger voice in their affairs.

Perhaps this helps to explain the second interesting aspect of the mentality of the modern British university, that is, the rather surprising way in which the commitment to the student and to good undergraduate teaching has held up in a time first of rapid expansion and then of growing strain. Indeed contrary to what might have been expected there seems to be widespread conviction that both teachers and students are better than they were ten years ago. The teachers themselves perhaps because the shock of student revolt in the late 1960s and 1970s undermined that the needs of students could never safely be relegated to second place in the priorities of the university (in this sense the popular parodies of this period represented by Malcolm Bradbury's *History Man* probably got it wrong. Student revolt encouraged a return to more traditional pedagogy as much as it opened the flood gates to politicized mediocrity).

The students are perhaps better because they have to be more serious today than they had always been in the 1960s. One fairly obvious reason is jobs. Another is that meeting the tough entry standards for British universities is perhaps more difficult for the new ranks of students who benefited from the Robbins expansion (and may have come

from a less differentiated secondary school system) than for the glib (and brilliant?) youth of the 1950s and early 1960s before the expansion of opportunity got under way. The fact that today there are many more women students may also have contributed to a more serious and more mature mood among students generally.

The third paradox is perhaps the most interesting of all. It is the while depression among university teachers seems to be widespread, also seems to be only skin-deep. Of course, the severity of present problems is admitted even by such enthusiasts. Everywhere there is a concern about the malignant effect of the effective freeze on recruitment into the profession. The scientist in particular fret about the way a particular generation of scientific talent has almost been snuffed already (although even here some are sanguine and point out that this infusion of redirected talent will do industry good). There are already many departments that have not made a new appointment since the mid-1970s. Fears increase about how it will feel in 1990 when the last along the corridor have been the same ones for 15 or 20 years.

But everywhere also there is a strong determination not to allow this problem (and related long term problems arising from the cuts) to become the occasion for academic ossification. Indeed, in certain circumstances the very absence of blood has underlined the need for serving academics to maintain creativity and energy in ways which were not perhaps demanded so intensely in the past because the 1981-82 level cannot be guaranteed for the future since resources for universities are certain to decline.

The court has taken a middle course in its distribution. Although it has not been excessively selective, nor has it followed a purely pro rata allocation, but made allowance for supplementary maintenance grants, student union financing, incremental drift and new developments.

They have given each school a 1983-84 student target for British and EEC students and have calculated backwards from that, based on unit costs, this year's grant. The student targets, however, could change when the university decides its future academic policy.

The court has not penalised schools which exceeded their 1979-80 targets but, "the real penalty which schools in excess of 1979-80 figures will have to suffer is the reduction of their numbers to the extent necessary to reach the new targets for 1983-84."

The court calculates that the UGC wants a reduction of arts numbers of 5.7 per cent (compared with an average national reduction of 8.4 per cent), and a science cut of 11.3 per cent (national reduction 2.2 per cent).

But a breakdown of the science numbers shows that some subjects will be severely hit. If the subjects

Peter Scott

© Laurie Taylor, whose column usually appears on this page, is on holiday.

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London survival strategy hits science hard

by Ngaio Crequer
Some science subjects at London University will lose 28 per cent of their student numbers, nearly three times as many as implied by the University Grants Committee, under a strategy for survival drawn up by the university court.

In letters to school heads revealing the court's allocations for 1981-82 principals are warned that the UGC targets for the arts and science "conceal the impact which their indications make upon certain individual subjects."

Those most at risk are the biological sciences and the combined sciences, which include groupings of mathematics, physics, the physical sciences, and some social studies and arts subjects.

The letter also warns that institutions hard hit by falling numbers of overseas students will not be protected by taking funds from institutions which do better.

Court will also be unable to give grant aid to any new minor building schemes for a number of years and schools will have to finance from their own budgets, rather than from central funds, the cost of most examinations.

And although student unions will be financed next year at the same real level as the previous year, "it may be wise to warn unions that the 1981-82 level cannot be guaranteed for the future since resources for universities are certain to decline."

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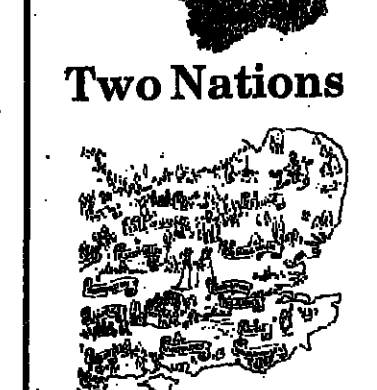
But a breakdown of the science numbers shows that some subjects will be severely hit. If the subjects

due to be increased or maintained are taken out, court estimates that the remaining science disciplines, biological sciences, agriculture, architecture, pharmacy and subjects allied to medicine would suffer.

In fact, as the great bulk of this reduction appeared to fall on the biological sciences, the UGC were asked if this is what they had intended. London was told that the UGC had envisaged a relatively large reduction in combined sciences.

Court also says that the increase of 300 in the target for medicine will not be required in full to meet the "run-on" problem in the medical schools.

The reduction in arts numbers in areas not due to be increased or maintained works out at a drop of 6.9 per cent over the period. Court has also told heads that its reduction "bears most heavily upon social studies, where the UGC envisaged a substantial reduction."



Two Nations

Laurence Kitchin discusses the split between north and south in Britain, 10

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Slump affects graduate jobs

For the first time in a decade fewer university graduates gained permanent employment in Britain last year according to figures made public this week.

The official grey book of employment data compiled by the Central Services Unit reveals that in 1977-78, there were 28,382 university students in permanent jobs six months after graduation. In 1978-79 it rose to 30,139, but in 1979-80 it fell to 29,597, even though the total graduating rose to 67,000.

The figures provide some of the

Freeze spells danger for medicine

by Robin McKie
Science Correspondent

A critical shortage of important lecturing staff could rapidly affect medical schools throughout Britain, seriously eroding teaching, staffing ratios and even the care of patients if University Grants Committee financial reductions are strictly implemented.

This fear has been highlighted by several medical deans concerned that universities may freeze all appointments as part of their implementation of UGC cuts. At medical schools there is a very high turnover of staff - about 25 per cent a year at lecturer level - and this could halt teaching in specialist subjects.

The problem has its roots in the composition of British medical education. Lecturer grades at schools are equivalent to senior registrar grades at hospitals and these posts are still viewed as parts of a doctor's training. When he moves on to a consultant post after about four years, he naturally creates a vacancy.

"The repercussions are enormous," said Professor Rex Compand, of Nottingham University

medical faculty. "We are certainly very worried about the situation now."

He added that the problem was not restricted to clinical medicine. For some subjects, such as anatomy, teaching was carried out by substantial numbers of junior surgeons on one-year appointments with only small core of senior academics in the department. If these short-term posts were frozen, teaching could be very seriously affected.

Junior lecturers are also the source of all future senior academics at medical schools and a serious reduction in their numbers would not just affect present teaching capability but would badly damage the long-term strength of schools.

But the academic side of medical education is only one part of the crisis. Schools are closely linked with local health services, with academics spending up to 50 per cent of their time treating patients. If their numbers are rapidly reduced, an extra burden could be added to already strained health services.

Senior health service staff who carry out university teaching will in turn find themselves in a conflict

between teaching and work duties. Professor John Walton, dean of Newcastle University's medical faculty, said consultants would be increasingly reluctant to spare time for teaching and there was evidence already of some objections in this area.

"In the end, the pressure to reduce student intakes will be irresistible," Professor Walton added. "The harm to British medicine could be irreparable. We are already in the position where the system is beginning to crumble."

Professor David Greenfield, a member of the UGC and also the dean of Nottingham University medical faculty, said the committee had been aware of the special problems facing medical education but had been forced to make the cuts required of it.

"The whole problem makes it more than usually important for the universities and health authorities to work together very closely on implementing cuts. If individual universities automatically freeze posts then medicine in general could suffer very harshly."

Scots set pay machinery in motion

by David Jobbins

Unified bargaining machinery for the whole of post-school public sector education in Scotland could be in operation by the 1982 pay round.

It opens the prospect of much closer collaboration between further education unions in Scotland and England in drawing up the next salary claim.

The Scottish Secretary, Mr George Younger, this week indicated the sort of composition he envisages for the new committee. It replaces five different committees, three covering pay for the central institutions, the colleges of education and the college of further education, and two covering conditions of service in the colleges of education and further education.

Mr Younger is seeking responses by September 14. Under the proposals the management and unions would have 19 seats each, with two Scottish Office representatives.

The Convention of Scottish Local Authorities has 12 seats, the governors of the central institutions four,

FCS faces threat of defections

by Paul Flather

The rumours and statements about how many other Young Tories and members of the Federation of Conservative Students will follow last week's lead and defect to the Social Democratic Party have multiplied.

Leading members of the so-called Neasden Group representing moderate opinion inside the federation made it clear this week that they intend to stay and "fight their corner".

But there is considerable uncertainty about a second group of leading Young Tories based around the National Association of Conservative Students and who may well defect in late autumn using the party's national conference as a pretext.

The threats of defections have come at an awkward moment for the FCS, which is currently celebrating its 50th anniversary year, and has been openly split between the pro-Thatcher hard-line "arids" and the more liberal "wets" who first started meeting in a house in Neasden.

Mr Tim Linacre, current chairman of the FCS and from the hard-line faction, welcomed the decision by the Neasden Group opposition to stay and fight. "I don't obviously agree with their political stance, but it is excellent news," he said.

"We intend to ensure that there are plenty of avenues for them to make their views known. All the evidence however suggests that the vast majority of Conservative students are behind Mrs Thatcher's policies."

Mr Paul Goodman, a spokesman for the Neasden Group and one of two Tories on the executive of the National Union of Students, said moderates had no intention of defecting to the SDP. "We want to fight to change the FCS line," he said.

Other Young Tories have given a mixed reaction to the "eloping eight" including three former FCS chairmen and several former NUS executive members who have joined the SDP. Mr David Soskin, a former president of the Oxford University Conservative Association, said it was a great relief.

Mr Iain Picton, chairman of the Young Conservatives, and Mr Stephen Moon, chairman of the National Union of Conservative Students, said the eight highly talented people had defected after much constructive work, tired of narrow and dogmatic fights.

A statement issued by the eight defectors describes the Conservative party's approach to problems as one "with simplistic remedies and cries of no alternatives". The SDP, they say, provides an alternative home for all those believing in One Nation.

Social works criticise 'out of date' course at Selly Oak

A social work course at the Selly Oak Colleges in Birmingham has been severely criticised for being out of date and poorly managed in a special report by the British Association of Social Workers.

The report has been sent to the colleges for comment, and to the Central Council for Education and Training in Social Work (CCETSW) which is to discuss the matter at a meeting in the late autumn.

BASW decided to review the course after the dismissal last year of Mr David Brennan, a lecturer in the social studies department of the colleges, and one of the founders of the course, which specialises in day and residential care training.

Last week an industrial tribunal upheld the dismissal on the grounds that Mr Brennan had disrupted the smooth working of the department by denigrating colleagues, by undermining those in authority, and by being disloyal. An appeal is being considered.

The BASW report, which is confidential, describes the course curriculum as being out of date; the six staff as not being sufficiently experi-

Teacher training faces cuts

by Patricia Santinelli

Several postgraduate teacher training courses will be closed in 1982 if recommendations made by the Government's advisory committee on teacher training sent to Mr Mark Carlisle this week are accepted.

The Advisory Committee for the Supply and Education of Teachers has recommended a 25 per cent emergency cut in intake to postgraduate certificate courses for 1982 and a 10 per cent long term reduction for all teacher training courses to ensure that output matches the number of vacancies more accurately.

In its last draft the committee's advice to the Department of Education and Science on managing the cuts only recommended restricting recruitment to PGCE courses most likely to over-produce. It now has included the key word "cease" recruitment, with the proviso that long term provision must not be prejudiced.

The committee chaired by Dr Clifford Butler, vice-chancellor of Loughborough University still recommends that the exercise should apply equally across the binary divide but not equally to all institutions and fall mainly on primary courses. It has added the Welsh language to the list of subjects for which provision must be safeguarded.

Details of how the exercise, which



Dr Butler: chaired committee

would lead to a total output of 12,000 teachers in 1983, is to be managed have still not been revealed, but it is quite clear that although the university sector will suffer cuts in this area for the first time, the public sector will be hit far more heavily.

In its explanation for the need to review the system, the committee no longer casts doubt on the ability of BEd recruitment to recover to 1977 levels. An entire paragraph suggesting this has been removed.

And another paragraph which implied that some courses associated with teacher training might be at risk because of funding authorities withdrawing support, has been removed.

The committee has also altered and added to the list of desirable

criteria on which the future of the teacher training system should be based. For example, it now recognises that the BEd degree has relevance outside teaching and that courses to train teachers for teaching in a multi-ethnic community should be protected.

It spells out more clearly which of the main institutional sources of certain types of teachers should be sustained and strengthened in quality. For example, it lists teachers of young children and of craft, design and technology, home economics in BEd and maths, physics and modern languages in PGCE.

The committee is still clearly concerned about the validity of the projections on which it has based its recommendations. The major fluctuations possible in the wastage rate from the profession, future numbers of pupils and likely proportion of vacancies which would go to former teachers or returners.

It has however accepted that in the early 1980s the annual need for newly trained teachers will be between 6,900 with total vacancies ranging from 10-19,000. In the late 1980s this would be in the order of 12,000 with vacancies ranging from 19-22,000. But in the early 1990s this could be in the order of 16,000 to 19,000 with vacancies running from 29,000 to 32,000. Clearly the latter figures would result in a serious shortfall in the number of teachers needed.

New rights for refugees

Amendments were announced last week to the regulations governing mandatory awards to refugees in Britain. Restrictions on those who had previously dropped in the interruption of their admission.

Both changes were among main recommendations of a report on refugee students published last month by the World University Service. Mr Alan Phillips, the director of the service, said he was delighted with the amendments. However, the WUS would ask the Department of Education and Science to withdraw the stipulation regarding the limit for interruption of studies. Some students had been imposed on in the process of reaching Britain after the interruption and should not be penalized, said Mr Phillips.

High learning

A major new international research facility, in which Britain has a 50 per cent share, will be inaugurated by King of Sweden on Wednesday. The £13m radar complex will study the ionosphere and magnetosphere at Kiruna, Sweden; Tromsø, Norway; and Sodankylä, Finland. The facility will be run by the European International Scatter Association, of which Britain, France, West Germany, Sweden, Norway and Finland are members, and will use the satellite of radio waves to study the effects of the sun on the earth's upper atmosphere.

Recruits wanted

The new Association of Polytechnic Administrators has launched a recruitment drive to add to the 24 founder members. The association, whose secretary is Mr G. F. Burdett, Leicester Polytechnic, intends to concentrate on training career development. Its annual conference next April at Coventry (Leicester) Polytechnic will select a first full executive committee and a detailed programme. Membership has been set at £3 for the coming year.

Final reckoning

St John's College has for the first time topped the Nottingham Table annual league which shows the Oxford colleges fared in final exams. St John's recorded 26 firsts, (from three points each), 81 seconds (one point), and four thirds (one point), giving it a 73.3 per cent share of the potential maximum. University College, last year's winner, came second with Merton third. St Peter's was bottom.

Energetic talking

This year's conference on Energy in Rural and Island Communities will be held at Eden Court, Inverness, in September 1 to 4. Its organizer is John Twidell, a lecturer at Strathclyde's department of applied physics, said the conference would include reports on wind generators, Orkney, the integration of wind and diesel power, the development of small hydroelectric plants, and developments in wind and tide power. The event is being sponsored by the Department of Energy, the Scottish Council and the Scottish Solar Energy Group.

Row over NF

A row is brewing over an invitation from the Cambridge Union to Dr Martin Webster, national organizer of the National Front, to take part in a debate on a motion that "The house would ban the National Front". The move is strongly opposed by a number of student organizations who say there is no need to give the NF a fresh platform to air its racial hatred. The Cambridge Union says that it must be seen to take the idea of free speech. A number of other speakers have refused to take part in the debate.

Rush for places at Buckingham

by Ngaiio Crequer

The University College at Buckingham, the only private university, has been inundated with inquiries from sixth-formers anxious about finding places now that admissions officers are being inflexible about offers.

The rush started at the end of last week, when A level results were published. A college spokesman said that for the first time the overwhelming majority of requests had come from British rather than overseas students.

"Our switchboard has been jammed, and we have had to draft in people from the departments and the registry to help us to cope," she said. "There is so much alarm about what is happening in the state sector, and the intransigence about grades."

In the first two days after results were published, there had been more than 300 requests for prospectuses. Last year, at the peak period, the university had only received requests from about 60 people at any one time.

The Buckingham year begins in January. Students are eligible for mandatory grants to cover some of the cost of attendance.

University admission officers throughout the country are now matching up examination grades with those required of applicants holding conditional offers. They will need to

tell the Universities Central Council on Admissions by the end of the month how many, if any at all, places they have left for the clearing programme.

This year there has also been a slight increase in the number of late applications to university, 2,500, compared with 2,400. They will also be competing for clearing places.

A number of universities have revised their intake figures. Lancaster had already decided to take 50 fewer students than last year, then reduced this by another 85 after a senate meeting in July. York will take 15 fewer students, a 1½ per cent cut, and Newcastle 31 fewer, although home applications are up by eight per cent. Liverpool's projected intake was 2,260 and since the UGC letters this has been revised to 2,182.

University College, Cardiff is taking 1,300 instead of 1,400. Bristol might cut back from 1,920 new students to 1,900.

Bradford University is considering a plan to introduce a voluntary severance scheme for academic staff aged between 40 and 50. The university is trying to find savings of £2.1 million to offset grant reductions. A non-pay economy package has also been approved, which will affect libraries, telephones, travel, minor works, printing and postage.

Bristol's £10m building plan unfrozen by Avon

Bristol Polytechnic is likely to become the main beneficiary of the new Labour administration in Avon with the approval of a £10m building programme which had been frozen for seven years.

The county council's education committee will seek Government approval for a package of schemes which place a high priority on building and equipment in the higher education sector. The committee has already reversed a decision made by the previous Conservative administration, which lost control of Avon in the local government elections in May, to cut £1.1m from the advanced further education pool allocation to Bristol Polytechnic.

The package includes £750,000 for a new computer, to replace the present system which was installed when Bristol Polytechnic was created in 1969. Building work will extend the main Coldeharbour Lane site by 50 per cent, to incorporate the departments of science, engineering and construction.

The move will vacate the Ashley Down site, where the departments are accommodated at present in pre-fabricated and Victorian buildings originally housing an orphanage, and "now

shared with Brunel Technical College."

If accepted by the Government, the programme will represent the first building expenditure at Bristol Polytechnic since 1975, when £200,000 was allocated to landscape the unfinished site at Coldeharbour Lane.

Avon is allocating £900,000 for capital item replacement over the next three years. Before Labour took control of Avon, the submission to Government for capital expenditure had been equivalent to a replacement of capital items once every 86 years.

Mr Robert Glendinning, chairman of the education committee, and of Bristol Polytechnic's board of governors, said he could not agree with the Government's policy of not supporting higher education and added: "We will need highly trained people in industry when the recession ends. With strong emphasis placed upon microcomputing and regional management, Bristol Polytechnic can play a major part in that training."

Avon expects to hear the results of its submission by the end of the year. "I will be extremely disappointed if the DES reject our proposals," said Dr Glendinning.

PhD rate worries Cambridge

by Paul Flather

Cambridge University is considering an investigation into the completion rate of graduate degrees in philosophy following widespread concern about how few students finish their PhDs even after seven years.

Figures compiled to show how 5,000 graduates fared between 1968 and 1977 reveal that over 11 terms (three and a half years) two out of three philosophy scientists had completed PhDs, compared with one in 15 social sciences.

When the rates were examined after 21 terms (seven years), more than nine out of 10 physical science graduates had finished their degrees, but only one out of three social scientists had done so.

Comparative figures for biological science graduates show that after 11 terms, one out of two had completed their degrees, rising to almost nine out of 10 after 21 terms; and for arts graduates it was one in 12, rising to more than one in two.

Professor Sir Moses Pinley, master of Darwin College, who compiled the figures, said that in a period of contraction with research grants being steadily cut, it was fair to ask if the funding bodies were getting value for money.

Sir Moses told a meeting of the university's senate, that at this time the university had an obligation to set up an inquiry into the completion rate of philosophy PhDs. "The alternative - to wait until a pistol is put to our heads - seems to me unthinkable for one of the world's greatest universities," he said.

Sir Moses set up an inquiry on completion rates set up by Lord Annan, then master of King's College, which reported in 1964 that such imbalances between physical and social science rates were not objectionable and unavoidable.

But Sir Moses said that this conclusion was made in a period of boom for universities, and not in a period of contraction. His remarks come just a few months before an inquiry committee set up jointly by the research councils completes its report on completion rates.



Staff from the University of Kent and University College, London, are lending their expertise to Canterbury Cathedral in an attempt to save the 12th-century wall painting of St Paul and the Viper on the Island of Malta. The painting, considered to be the finest of its kind in the country, is endangered by plaster lifting away from the stone wall of St Anselm's Chapel. Members of Kent's physics laboratory are co-operating with the photogrammetry unit at University College to measure surface movement in order to determine the appropriate treatment.

OU goes it alone on reading study

by Patricia Santinelli

A major Open University research project whose grant has been withdrawn by the Department of Education and Science following disagreement over its academic value is to continue, according to its director Dr John Chapman.

The £109,000 grant was made to Dr Chapman and the OU educational faculty for a three year investigation into "perception of textual cohesion by post primary children" - a study associated with reading fluency. Now after £60,000 has been spent, it is to finish in November some six months before its completion date.

The DES says that the project ran into difficulties on theoretical grounds and this could only have been solved through additional time and money which was not available within a very tight research budget.

"We asked the OU if they could make other proposals for useful work which could be completed within the time scale but they were unable to do so and as a result we decided to terminate the project," a DES spokesman said.

Dr John Rayner, head of the OU educational faculty says that the whole affair is deeply complex and tragic and that it casts doubts on the DES policy of funding.

He stresses that following disagreement amongst members of the DES steering committee as to the value of the project, the increasing hostility and bitterness within the project team, and an independent report which did not support the premises of the research he was left with no alternative but to advise the DES to discontinue the project.

However Dr Chapman, whose academic position has been put at risk, says he plans to continue the project and will seek other funds to do so. He feels sure that he will be vindicated when the results are known and he has proved that the test measurements he used were valid.

It is supported in his belief by some members of the steering committee. Dr Joyce Morris who also describes the whole matter as tragic and has asked the DES to explain why the grant has been withdrawn since the research has strong support from other academics in the field. She is adamant that the research should continue.

But members of the research team who claim they have made formal complaints about the project to the Association of University Teachers say that the whole academic premise underlying the research is false and that this has been proved by several external reports.

Zimbabwe students hit by scholarship shake-up

by John O'Leary

More than 600 Zimbabwe students attending an "emergency meeting" this week at their country's High Commission in London to hear of plans to reallocate completely scholarships for degree courses.

All 876 students completing A level or equivalent courses have been required to re-apply for awards whether or not they were among 200 previously selected to benefit from a £5m scholarship programme launched this year. "The number of places" in British higher education will be increased to 230 but several students will have their offers withdrawn.

Two Zimbabwe government officials returned to Salisbury yesterday to allow a committee to re-assess the places in time for the students to be informed next week. They did not know how many previously successful applicants would be rejected but confirmed that there would be a number.

Some will be discarded because of

inadequate A level results, preventing the students concerned from seeking places at institutions with less rigorous entry standards than those to which they originally applied. Others were found to be studying subjects which did not carry a high priority in Zimbabwe, after obtaining scholarships by claiming to be studying subjects such as medicine or engineering.

Certain universities have already been approached jointly by the Zimbabwe High Commission and the British Council to ensure that those who are substituted on to the scholarship programme have the chance of a place. Reading and Newcastle Universities, for agriculture and engineering respectively, are expected to take some of the new students.

The senior official carrying out the exercise said that the students had accepted that the Government had to ensure that the best students were financed. Others would be found places on courses in Zimbabwe.

Sanctions threat to Lothian

Sanctions against Lothian region if it fails to go back on its decision to sack 400 further education lecturers as part of a £15 economy package are being considered by union leaders today.

The regional council, warned by Secretary of State Mr George Younger that it will lose £1.5 a week from its rate support grant if it fails to make major economies, this week told 100 full-time and 300 part-time staff their contracts are not to be renewed.

A freeze on new spending and recruitment will also hit 1,500 evening class lecturers due to be hired next month.

Many of the part-timers are teachers drafted in from industry and

the professions to teach on specialist courses.

Mr David Bleiman, general secretary of the Scottish Further Education Association, said: "Many FE courses will not be able to run without specialist part-time and temporary lecturers. The disruption which could be caused is immense."

The union's executive meets today and Mr Bleiman added: "If we have no indication that the moratorium will be lifted the executive will consider sanctions such as not covering classes which should be taught by temporary lecturers."

The regional council confirmed that the worst job losses would be at the West Lothian and Esk Valley colleges.

Recession hits graduate jobs

contd from front page

view that graduates are unable to secure grants for further study, and unable to find jobs easily are now flocking to take further vocational courses to improve their chances of finding work.

Commenting on the figures the CSU notes that even the new boom areas for graduate employment during the past decade, such as computers, financial work, retailing and production, can no longer be relied on to deliver jobs.

The overall rate of graduate unemployment at the end of last year was estimated at 7.6 per cent, a significant increase on the previous year when the figure was 4.4 per cent.

Comparative figures for the 19,000 students who graduated from polytechnics expected next week will

show that 9.4 per cent were out of work six months after graduation, compared with 5.8 per cent last year. The Association of Graduate Careers Advisory Services, which has already predicted the graduate employment market could shrink this year by as much as 15 to 20 per cent, hints in the grey book that graduate employment is almost in need of special government treatment.

AQAS say that now without doubt it must be of the greatest concern that the country is unable to avail itself of the potential benefits to be reaped from its high level investment in this most able sector of the population.

"University Graduates 1980, from the Careers Services Unit, Crawford House, Precinct Centre, Manchester M13 9EP."

Coventry reinstates cuts

by Paul Flather

The first sign of a revolution in the funding of polytechnics and colleges came this week with the confirmation that more than three quarters of Coventry Polytechnic's planned £800,000 cuts had been reinstated.

The city council's finance committee has approved the reinstatement of £624,000 of the polytechnic's current budget, with a further £178,000 to be reinstated once details have been worked out.

The abrupt reversal follows a special joint delegation by the local authority and the polytechnic to the Department of Education and Science when it was made clear that the polytechnic had much to gain when a new unit cost funding system came into operation in 1982-83.

This and the fact that Coventry had clearly "played the pool game" and overestimated the likely spending needs of their polytechnics led the city council to step back from de-

manding £800,000 worth of cuts this year.

The decision means that Coventry (Lanchester) will now only freeze six academic posts instead of 22, fill all essential non-academic posts, and restore almost 100 per cent of its original £478,000 budget for books, and teaching materials.

Dr Maurice Foss, deputy director, said Coventry was now fully confident that it would be able to maintain academic standards. Earlier this year the polytechnic expressed fears about the future and made contingency plans to slim down the institution.

"There is no danger to academic standards now and we can go ahead and fill all key posts. For this we must be grateful to the local authority who have been completely behind us during the current difficulties," he said.

The significance of the decision however is that it anticipates the implementation next year of unit cost funding which will benefit all

low cost institutions including Coventry, to some extent at the expense of high cost institutions.

Preliminary figures compiled by a DES study group working out details for unit cost funding showed Labour-controlled Coventry would gain under the new system, particularly as a polytechnic which emphasizes the more expensive laboratory-based courses.

It is clear the DES has not made an exception of Coventry, but councillors felt there was little point in forcing home cuts when the future looked more optimistic. They also realized they had been very strict in following DES demands for savings.

A final report on how unit cost funding will work is expected shortly from the DES study group, chaired by Mr Stephen Jones. It will then go before ministers, and local authority organizations for comment. Its principles are almost certain to be accepted.

The other poly debate, page 8

Placements rarest in north

by Ngaiio Crequer

Sandwich students in the north of England find the greatest difficulty in finding industrial placements. They are followed by students in Wales and then London and the North east.

The South east and South west institutions do best, with only about seven per cent of their students unplaced, according to evidence prepared for the Government sandwich course review by Brunel University's Institute of Industrial Training.

A survey of the English and Welsh polytechnics and ten universities shows that 12 per cent of polytechnic degree sandwich students would be without placements in October 1981. The figures are 21 per cent for polytechnic non-degree course students and 4 per cent for university students. The university figures do not take account of students who transfer to full-time courses.

The Brunel unit estimates that there is an aggregate shortfall of 4,055 training places for advanced sandwich course students, but the situation is markedly worse when other factors are considered, such as students placed by extensions of local authority grants, students in unsatisfactory placements and students transferring to full-time courses.

Its findings show that more than 1,000 students used i.e. a grant extension, without which they would have been unplaced. But placement officers expressed some misgivings about the system because the grant covered only a limited period, 10-12 weeks in the majority of cases, for this sandwich course placements.

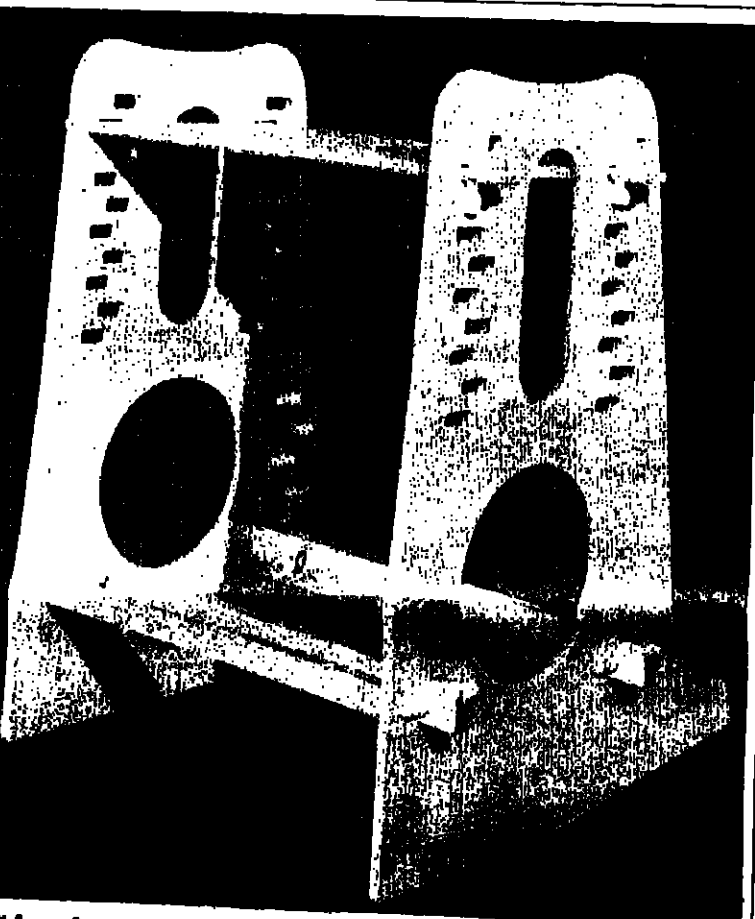
For thick sandwich course students the grant is limited to certain courses and does not cover the minimum 48 weeks required by the Council for National Academic Awards. Students also found that grant extension were difficult to obtain since i.e. an interpretation of the conditions was arbitrary.

The overwhelming majority, 84 per cent, of placement officers said finding places was either extremely or very difficult.

In civil engineering/building/surveying problems were due to the decline in the construction industry and the fact that local authorities could provide training for local students for one placement period only. In electrical/mechanical/production engineering sponsorship was difficult, and a growing number of companies were not offering training to first year students.

In the social sciences there had been a big drop in local government places, and the quality of some places was lower than desirable.

The National Union of Students this week met officers from the education department of the Confederation of British Industry to discuss how the dramatic decline in placements could be reversed. It is thought to be the first official meeting between the NUS and the CBI for more than 10 years.



Sitting prettily in the field

Practical difficulties encountered in organizing a field trip have inspired the design and development of a new range of low-cost, portable furniture at two schools of Manchester University.

The project, which is being carried out by members of staff in the schools of architecture and town and country planning, has won an award of £60,000 from the Wolfson Foundation. This will allow work in the new design unit to continue for three years and see the furniture launched on the world market.

Professor Roy Kantorowicz, director of the school of town and country

planning, initiated the work after finding the existing studio furniture too cumbersome to take on a field trip. It will be capable of production and assembly in Third World countries, where market potential is said to be considerable.

Among the pieces already completed is the rocking stool pictured, which can be adjusted to any height and also allows the draughtsman to position himself comfortably over the drawing board. Having added other studio items such as adjustable tee squares and collapsible coat racks, the unit is now moving on to a wider range of furniture, including wardrobes, chairs and beds.

NUPE plans to counter cuts

Union officials fear that manual workers' jobs may be the first to go as universities divert scarce resources to safeguard teaching and research. Although officers of the National Union of Public Employees are not aware of wholesale redundancies, they are conscious that universities will try to save as much as they can from student entering and hostel budgets, and on maintenance, before they cut elsewhere. Most of the union members, many of them part time, work in these areas and could find their jobs at risk.

The 10 NUPE assistant divisional officers who are also secretaries of the university area committees over the whole of the United Kingdom are to meet next week to discuss how to counter the threats.

National official Mr Harold Wild said "It is to be a general discussion to enable us at head office to get a feel into what is happening, and also items which are being experienced as a result of the limits on university finance."

Leaders of university manual workers, clerical, staff, technicians and academics are to hold a summit on the potential crisis next month. The secretaries and lay chairmen of the various national bargaining committees are to try to reach some kind of co-ordinating agreement.

The initiative came from NUPE, and officials had originally hoped it could be arranged during the Trades Union Congress in Blackpool the previous week.

Outlook bright for poly as applications flood in

by Sandra Hempel

As polytechnics gear up for the annual rush of applications that always follows A level results, many colleges are reporting that applications are already well up on last year. Some show a 10, 15 or even a 20 per cent rise.

Current unemployment and a growing awareness of what polys have to offer are tentatively put forward as reasons for the rise. Some report an improvement in the quality as well as the quantity of applicants which has led to more firm offers of places. This might be because more students are regarding polytechnics as a first choice rather than as a last resort if they fail to get into university.

More popular courses at the larger polys could even be oversubscribed if the universities' tougher attitude to borderline applicants means that a higher percentage of candidates will be taking up their polytechnic offers than in previous years.

The biggest rise so far is at Teesside where applications are up 20 per cent. This is put down partly to the improvement in the college's image over the last three years.

Portsmouth reports a 15.5 per cent rise and at the end of July had received 12,500 applications compared with 10,800 at the same time last year.

Brighton's applications are up by 14 per cent with a steady number of good quality people, according to a spokesman, while Plymouth has ten per cent more applications. The increase at Plymouth was showing as early as last November.

At Coventry applications at the

end of July were 10,570 compared with 10,170 last year while Huddersfield, Liverpool and City of London are all slightly up, with rises of 10 per cent at Liverpool and City of London and 12 per cent at Huddersfield.

Business studies courses are particularly well supported. The thought partly to reflect the slump in the building industry and partly because students with whom these courses are very popular.

Oxford Polytechnic has now closed the books on its business studies course which received 1,300 applications for 55 places. Its BA in planning studies already has 34 students holding firm offers, and 100 holding conditional offers for 55 places.

City of London had already received 75 per cent of the total of applications it was expecting by the end of June.

At Newcastle where applications are described as "very healthy" BA course is sports studies had 30 applications for 30 places.

Enrolment is surprisingly good, said a spokesman for Birmingham Polytechnic. "We have closed down some courses and a lot of students have firm offers."

"I suppose if every man put their thumbs up we might have a problem."

A spokesman for Oxford Polytechnic said: "When the final applicants come a lot of people who thought they could just get into a polytechnic if they failed to get to university will find it is quite so easy."

'Threat to adult education'

by Patricia Santinelli

The whole fabric of adult education could be seriously threatened rather than safeguarded by the setting of "minimum commitments" to such a provision, the London and Home Counties Regional Advisory Council said this week.

The view comes in response to a report by the Advisory Council for Adult and Continuing Education, *Protecting the Future for Adult Education*, whose main conclusion recommends the setting of minimum threshold commitments as a means of preserving the system.

The RAC says: "We understand the reasoning behind this, but believe there is a danger that minimum may come to be regarded as the norm and that every case for development of the service or even the opposition to further cuts then has to be argued from first principles. The whole concept, therefore, should be regarded as a crisis measure, acceptable only for a short period of time."

The council says that although it endorses recommendations relating to local authorities, it would have liked greater stress placed on the role played by central government. "At a time when adult education is under threat, Government policy on its provision needs to be clearly defined in a way which will reaffirm the status of adult education and the important contribution the service is making to the wellbeing of the population."

The council also points out that there should be at least one full-time appointment for every 30,000 adults in each local authority, over and above other staff, only represents the basic minimum and that it will in no way ensure a truly effective service. On staff training, it stresses that the momentum should be maintained with an element for this included in the rate support grant.

The RAC also argues that the cost fees for the educationally disadvantaged should be charged on an authority education service as a whole rather than passed on to other adult education students in the form of higher fees.

Engineers calculate right charge

by Robin McKie
Science Correspondent

A device which could boost the use of electric cars and vans is being developed at the electrical and electronic engineering department of the Polytechnic of Wales. A team led by Dr Marcel Jayne is working on a special microprocessor which would closely monitor the electric charge in vehicles powered by batteries.

At present many electric vehicles have to be frequently taken off the road for recharging for up to eight hours. This is partly due to the difficulty in estimating the precise amount of refuelling - in the form of electric current - which the vehicle needs. Recharging times of hours, with temperature, terrain, weight carried and terrain.

Calculating the correct charge is almost impossible so operators usually just give the maximum charge, keeping the vehicles off the road for much longer than necessary. The polytechnic team hopes to overcome this by developing microprocessors which will automatically check the level of the various factors and calculate the appropriate charge.

"We thought it would be a tremendous advantage if instead of taking eight hours, the recharging could be cut down to one hour," said Dr Jayne.

The microprocessors would merely receive information at the time of checking the vehicle, but would also record and store data so that the history of each vehicle could be taken into account when estimating power requirements.

Dr Jayne and his team hope to have the system completed within a year and to find a manufacturer to produce it commercially for operators of electric vehicle fleets, such as milk floats or fork lift trucks.

The team is also working on the development of hybrid vehicles, equipped with both a diesel and an electric engine. This would run on electricity in town, where quietness and lack of pollution would be a special advantage, and switch to diesel in less built-up areas, where the diesel motor could also be used to charge the electric battery.

North American news

'Scrap department' plea from Bell

from Olga Wojtas

WASHINGTON
The education secretary, Terrell Bell, has recommended that President Reagan abolish his department.

In a paper sent to the president Dr Bell apparently made suggestions for the Education Department's future. It should become a foundation without cabinet status, on the lines of the National Science Foundation, concentrating on research and statistical work. It should be an independent agency. It could merge with another cabinet department or that it cease to exist altogether, with its functions distributed among several other departments.

It was only last year that ED became a separate unit - it was previously part of the now defunct Department of Health, Education and Welfare.

However, conservative feeling is that federal control of education is a bad thing, and the president has frequently criticized the setting up of the new department, promising in his election campaign to dismantle it.

However, Dr Bell is reckoned to oppose the option of combining ED with another department; he was commissioner of education within HEW.

It also seems unlikely that he will back ED being split up, with, for example, student loans being handled by the treasury, and vocational education by the labour department.

The options of an agency or foundation are broadly similar - neither would have cabinet status, but an agency would continue to



President Reagan: a request for abolition.

At the recent annual National Governors' Association meeting, two governors proposed that the state governments swap with the federal government their present control of welfare programmes in return for state control of education.

It was pointed out that President Reagan believes that responsibility for the old and needy should lie with the states, as well as responsibility for education, and in the end, the governors simply endorsed a proposal urging reduced federal support for education.

The stumbling block to any changes in ED's status, however, is likely to be Congress.

Students turn to firms for aid

With the present financial difficulties in higher education more students are likely to be seeking the assistance of firms which will fund them a tailor-made scholarship.

A Jewish student of Austrian descent who wanted to study genetics discovered through Scholarship Search, a New York computer firm, that a Swiss foundation was eager to press a grant of \$40,000 on a Jewish student of Austrian descent who wanted to study genetics.

The computing firms maintain there are hundreds of millions of dollars waiting to be claimed which can be a lifeline for middle income students.

And the Austro-Jewish scholarship is one of the more mundane on offer.

The University of Arizona will give \$500 to students whose talents include roping cattle at rodeos.

Students who don't smoke, drink, use drugs or engage in strenuous athletic contests may qualify for part of a \$30,000 fund at Bucknell University.

Perhaps the most unusual scholarship was set up by a Seattle scholar with the money from prostitution fines. It is intended for reformed prostitutes who wish to take a university degree. There has already been one beneficiary, who has successfully completed a course in clinical psychiatry.

Stanford backs genetic licence

Stanford University is making an unprecedented effort to license the entire genetic engineering industry to use the basic technique of biotechnology, invented by one of its staff members in collaboration with a member of the University of California.

The project is based on a broad patent covering the basic genetic engineering and cloning methods invented by Dr Stanley Cohen of Stanford and Dr Herbert Boyer of the University of California at San Francisco, both of whom have waived their rights to personal royalties.

The two scientists, whose research has been funded by the National Institutes of Health, the American Cancer Society and the National Science Foundation, have been collaborating since they had a casual chat in a Waikiki delicatessen nine years ago.

Their discovery is unique in its breadth of application, and the number of industries it crosses. Several industries have been working in the industrial biotechnological field, but assisted by large grants from major companies who then have the exclusive licensing agreement.

It is the basic tool necessary for genetic interchange, which can result in pharmaceutical products such as interferon, insulin and vaccines, the production of nutritious food substitutes, pollution control, and chemical products.

The process, which the scientists originally revealed in 1974, may be used by around 200 firms in the United States, perhaps half of whom are expected to apply for licences in the near future, while others will wait until they have commercial sales.

Since advertising the licensing programme in various journals, the university has had about 40 inquiries a day from interested firms.

British firms using the patent methods will need a licence if they wish to export their products to the United States, and a product patent is expected to be issued by the end of the year. Using the methods in noncommercial basic research will not require a licence.

Stanford's president, Mr Donald Kennedy, said the university's licensing terms had been designed to assist the process of technology transfer by making sure lots of play-



Stanford University: an attempt to use the basic techniques of biotechnology

ers get into the game. This increases the probability of valuable new applications for human service."

Firms wishing to sign up for use of the non-exclusive licence will have to pay \$10,000 with an annual fee of \$10,000, and Stanford says its revenue could rise to about \$1m within four or five years.

The money made through the licensing programme will help to fund the basic research enterprise. Fifteen per cent of the royalty income will go to Stanford for the costs of administering the licence, and the rest will be divided between Stanford and the University of California.

However, Mr Kennedy is cautious about the programme's outcome, and says it is not anticipated that the income will significantly alter present financial projections in the university's budget.

But the entire project very nearly failed to get off the ground. Dr Cohen was opposed to patenting the invention - and was only persuaded when the director of Stanford's office of technology licensing pointed out that the commercial development of penicillin had been delayed for 11 years because it lacked patent protection.

Researchers at Stanford's school of medicine report encouraging results from the use of mouse monoclonal

Financial doubts will hit enrolment

Private universities and colleges in the United States are likely to be badly hit by a fall in student enrolment caused by uncertainty over federal financial aid, according to the independent institutions' research body.

The National Institute of Independent Colleges and Universities (NICU) reports that although applications are up nationally by about 5 per cent, the number of actual deposits has fallen, and that various institutions report a higher than normal withdrawal of paid deposits over the past few weeks.

It seems likely that the increase in applications is simply the result of students trying to hedge their bets by applying to a variety of institutions.

John Phillips, president of NICU and its companion lobbying body, the National Association of Independent Colleges and Universities, said this "reflects the anxieties and uncertainties over the expected downturn in student aid benefits."

One piece of legislation which seems in line for virtual elimination under the Reagan administration is the Middle Income Student Assistance Act, which has existed for only two years.

MISA's prime objective was to give more grant aid to middle income students who were neither poor enough to qualify for a significant grant, nor wealthy enough to take higher education fees in their stride. Until MISA, middle income families had to pay a hefty parental contribution.

In a comprehensive study of the act, NICU found that MISA had achieved its intended objectives "almost perfectly" with more students at independent institutions receiving student aid, which was distributed "more equitably among students from all income groups."

Mr Phillips added that the effect of the demographic downturn had

been expected to be felt in 1979; this had not materialized, and he attributed this to the success of MISA.

The budget-cutting measures at present being introduced by Congress will further limit aid to students from lower income backgrounds, by putting a family income ceiling on previously unrestricted federally guaranteed loans.

Under federal legislation passed last year, parents could take out loans at a nine per cent interest rate; however, few states have yet authorized these loans, and new legislation will result to the interest rate leaping to 14 per cent by October.

Examining the projected fall in enrolment, NICU's executive director, Virginia Hodgkinson, said that although the costs of independent higher education varied from region to region, enrolment was down most in the areas where the expected parental contribution was highest.

"Unless something is done pretty swiftly to redress the balance, the independent sector could be in for a very rough ride in the next few years," said Mr Phillips.

It is still too early to say whether state colleges and universities will also suffer a drop in student numbers, but applications are up on last session.

There has also been an appreciable increase in enrolment of more than five per cent for the two-year state community colleges, and it is expected that over five million students will attend the 1,200 colleges this session.

William Harper of the American Association of Community and Junior Colleges said: "The colleges are less costly to attend and offer many job training programmes. During so-called bad times, a lot of people who may be unemployed, or who want to improve their position at work, will go to them."

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Overseas news

Students miss year after exam boycott

from Craig Charney

JOHANNESBURG Almost half the students at the University of Durban-Westville, which serves Indians, seem unable to complete the academic year after a six-week boycott there.

Students who boycotted mid-year exams in June will not be allowed to retake them, the university senate has decided.

This means that more than 1,000 students will have to be excluded, according to Mr Nico Nel, university public relations officer. Another 1,000 are believed already to have left.

In addition, 235 students expelled from university hostels have not been re-admitted to them. Some are being forced to sleep outdoors or in the back of cars.

The protests began with student demands that an allegedly incompe-

tent human physiology lecturer, trained as a zoologist, be sacked.

They escalated when June 16, the fifth anniversary of the start of the Soweto uprising, was scheduled as an exam day. Several other universities had left it open in commemoration.

The students also demanded the re-instatement of 600 Durban high school pupils expelled in May's Re-public Day protests.

After meetings with the administration to discuss their demands proved fruitless, the students resolved on a class and exam boycott from June 9. The stay-away continued despite the banning from campus of three students leaders and the presence of riot police at the university.

The students finally decided to return on July 28, expecting that the mid-year exams would be re-scheduled.



Entire faculties were wiped out in the Naples earthquake

from Uli Schmetzer

NAPLES With almost half its buildings destroyed by the November 1980 earthquake, the University of Naples this month decided to freeze all enrolments for the next academic year.

The move, proposed by the academic council but angrily rejected by the Italian education ministry as "judicially unacceptable" would mean that 23,000 undergraduates would have to wait another year before starting their courses.

The battle at Naples University exploded this month when the government voted only £8m to rebuild the devastated campus, instead of the £21m needed for complete reconstruction of the destroyed parts.

In what was immediately labelled "an act of protest" the university council decided to block enrolments.

Rector Giuseppe Cuomo said: "To accept enrolments under our present conditions, with half the campus in ruins, would be fraudulent. It would be like making fun of these young people."

The militant rector has since been replaced and his successor, Carlo

Quake-hit campus stops enrolments

Giriberto, is taking a more conciliatory line. "The situation is not so desperate," he said amid protests by his council. "Many faculties can be restored and we can share facilities and use buildings like one abandoned army barracks."

In fact Rector Giriberto feels the campus can continue to function along the makeshift arrangements of the last eight months and with the erection (if the government authorises it) of prefabricated huts as classrooms.

Naples University, Italy's second largest campus had 95,000 students even before the earthquake in building designed for 35,000 students. In the earthquake entire faculties were wiped out including the prestigious medical faculty with its hospital of 1,000 beds.

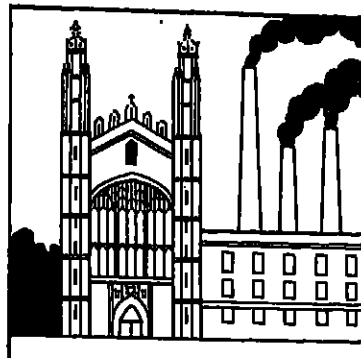
For the last nine months staff and students have juggled with the surviving space to continue the courses. The economy students moved in with the 3,000 sociology students, engineering and judo students shared classrooms, law and second year medicine shared. Some courses were held in a chapel. Architecture (unable to find accommodation) remained inactive for two thirds of the academic year and literature professors held their lectures in a damp cellar.

In fact, campus authorities say, the quake left 23,000 students without a roof to study under (fortunately for all of them it has rained only a few times in Naples this year).

In order to hold classes in the evenings (with classrooms shared) the campus council requested authorization for more overtime pay for four housemasters. Instead of education ministry this month ended all overtime payments.

The decision caused anger, especially when the government also decided to make available only a third of the funds needed to rebuild the university.

Time for a change



Two hard-up research councils are spending a million pounds on a brand new think tank which opens for business this month. In our continuing series on higher education and industry, Peter David explains how three men conjured the Academic Change Centre out of the depths of the academic recession.

investigating Britain's management of technical change.

Inspiration for the centre came from the SSRC shortly after Mr Posner became its chairman more than two years ago. For a number of reasons, the SSRC was attracted by the notion of a "tame" think tank over which it could exert powerful influence but not direct control.

Posner, a former government adviser, had arrived at the SSRC determined to bend it in the direction of problem-based research with direct relevance for social and economic policy. His philosophy was sharpened by fears that a Thatcher government might abolish the SSRC if it could not demonstrate any practical use.

But in the SSRC, Posner found a committee structure of academics whose allegiance was to academic disciplines, and not to problem-solving, and to scholarship rather than the winning of political influence. The clash of views was to traumatize the council. Posner has won many of the battles, shifting priorities from postgraduate training into large scale research ventures with a technocratic flavour, and streamlining the committee structure.

Yet the SSRC is still unable to respond quickly and with one voice to immediate public issues. Efforts to produce a single view for the Science and Technology Committee, for example, founded on the council's internal disciplinary barriers. A compact think tank under the wing of the SSRC but not immobilized by its constitution would enable the council's leadership to feed views into public debate which could not be steered through the subject committees.

A second reason for the SSRC's enthusiasm for the TCC was that Posner had inherited from his predecessor, Mr Derek Robinson, half-completed plans for an American-style think tank, the ill-fated British Brookings. That venture had frightened too many existing research organizations and was never implemented. But Robinson had identified pockets of political and financial support which might still be exploited under different circumstances.

More importantly, Robinson's tangle of the research foundations had discovered the existence of a potential gold mine. The Leverhulme Trust, one of the foundations approached in the quest for a British Brookings, had been badly hit by a time when money for research is scarce. The TCC is being heavily funded by two hard-pressed research councils.

The TCC was conjured out of the depths of the academic recession by a triumvirate of powerful figures at the centre of Britain's research establishment. Its birth was the culmination of a complicated sequence of manoeuvres involving international dividend control, an unsuccessful attempt years earlier to create a "British Brookings" and growing dissatisfaction in the Science and Social Science Research Councils with the constitutional limitations on their activities.

One of the triumvirs, the SSRC chairman, Mr Michael Posner, is jubilant about the marriage of needs and opportunities which he helped to engineer. "TCC is not going to be just a catalyst," he says. "It is almost an enzyme, carefully bioengineered to fit the circumstances." The SSRC will be spending more than half a million pounds on TCC over the next five years.

A similar sum has been earmarked by the Science and Engineering Research Council and even more some £1.5m - by the Leverhulme Trust. The TCC will eventually have an annual budget of about £750,000 and a staff of about 20 researchers

Education and Science at the very moment the academic world was in upturn over the savings of post-graduate funding by the SSRC and the rejection, for the first time, of alpha-rated research applications by the SERC.

Posner and Allen constructed their political campaign with the precision of a Swiss watch. For Posner, enlisting the hard-headed SERC in joint venture was an important coup which helped overcome considerable scepticism within Whitehall about the SSRC's competence in the area of technical change.

He was also careful to learn from Robinson's mistakes. This time existing research centres, like the Policy Studies Institute which had opposed the British Brookings, were consulted in advance and promised that the new centre would be spending new money and not competing for existing funds. The SPU team at Sussex, which had most to fear from creation of the TCC was sweetened with a confidence-building £250,000 grant from Leverhulme.

To win allies in government, the triumvirs persuaded Lord Swann to head the steering committee and later the board of governors. And the shape of the board was meticulously crafted to defuse potential jealousies and provide TCC with effective tentacles in Whitehall, industry and the universities.

A key appointee was Alfred Spinks, former research director of ICI, author of the recent report on biotechnology and a member of the Cabinet's Advisory Council for Applied Research and Development as well as the Advisory Board for the Research Councils. He could provide TCC with an instant line of communication with the Cabinet Office, and could guarantee a sympathetic hearing in the influential ABRC.

Industry was represented by Sir Alastair Pilkington and Philip Hughes, managing director of Logica Holdings. For the trade unions, the TCC enlisted Jim Mortimer, chairman of ACAS. Whitehall representation was provided by Dr Duncan Davies, chief scientist and engineer at the Department of Industry, University links were forged through Sir Kenneth Alexander, principal of Stirling, and Donald Broadbent, the Oxford psychologist.

The TCC will need the respect of the universities and the co-operation of the established academics. But it has also to win the confidence of ministers, civil servants and industrialists. "Unless we can make contact at that level it will become just an intellectual activity," says Dr Tress. The flavour of the enterprise can be assessed by an early decision to drop the original name, Centre for the Analysis of Technological Change, on the grounds that it sounded too academic.

The board of governors recognized that the choice of a director would be crucial. Ideally, they wanted someone with a credible academic reputation. But they were more interested in finding a director with political experience who could do the sort of wheeler-dealing necessary to make the TCC's voice heard in the centres of national decision making.

Their choice was Sir Bruce Williams, vice-chancellor of Sydney University, a politico-academic hybrid of precisely the right sort. Academically, Sir Bruce's reputation rests on a series of pioneering studies conducted in the 1950s and 1960s with Sir Charles Carter and still standard texts on the economics of technical innovation and industrial investment.

Unlike Leverhulme, however, the two research councils had a political battle to win before the centre could be launched. It would have to be piloted through the Department of

His political experience was acquired as economic adviser to the Ministry of Technology and a member of the Prices and Incomes Board. In Australia, he was a member of the Reserve Bank Board, chairman of the Australian vice chancellors' committee and of the Australian government's 1978 inquiry into education and training.

His deputy is to be Dr James Kennedy, a former professor of metallurgy. Kennedy also spans the worlds of academic, government and industry which the TCC will try to unite. He was director of research at the Delta Metal Company and is an active and respected member of SERC and ACARD. Kennedy has been appointed to a special committee established within the SERC to find issues which can be referred to the TCC.

For all his experience of government, Sir Bruce is unlikely to produce orthodox views. As adviser to the Ministry of Technology he was a controversialist and occasionally unpopular figure, advising against Concorde and bringing the alien ideas of economics and cost-benefit analysis to bear on issues which government scientists had been accustomed to decide on technological grounds alone.

In Whitehall, Sir Bruce challenged the orthodox view that Britain should invest heavily in aerospace and atomic energy, advocating instead a sweeping redistribution of scientific manpower and money to less glamorous but more economically promising sectors.

Academically, he questioned the prevalent "left-to-right" model which viewed technological research as a simple and inflexible economic accelerator. Instead, he argued, re-



Sir Bruce Williams: unorthodox.

search and industrial activity were interlinked in a complex way. He told the OECD that spending too much on research could actually impede innovation, by skewing the distribution of highly qualified manpower in industry.

Many of these notions, heretical in the 1950s and 1960s, have become conventional wisdom since Sir Bruce left to become vice-chancellor of Sydney. Now that he has been lured back, he is bound to want to produce new heresies to shake British preconceptions about science and technological innovation.

For this reason, he can be expected to resist pressure from the research councils to work exclusively on quick-reaction projects. He intends to develop a balanced portfolio in which the TCC will explore some fundamental issues as well as questions of applying particular new technologies.

Whether the TCC can succeed in meeting all the conflicting demands placed on it will depend largely on its ability to buy in the academic and technical expertise it needs. At the SPU, which does similar work but has existed for many years, many staff are sceptical about the creation of a brand new centre. They argue that technical change is a complex field in which lines of research take years to develop, and that the money being invested in the TCC could have produced a bigger payoff if it had gone to the SPU and other university organizations with experience in the field.

But the TCC's triumvirs are unashamedly optimistic about the TCC. They believe its unique position in the meeting point of government, higher education, industry and the research councils will enable the score of researchers it employs to have a big impact on Britain's industrial performance.

Government breaks promise on overseas student rules

from Guy Neave

PARIS This measure caused uproar across the country as students denounced it as racist.

Foreign students are also required to enrol in a provisional year which gives them no right to follow a full time course but provides evidence for their linguistic abilities to be assessed.

The effect of these measures was to reduce the number of foreign enrolments, particularly in the Paris region by some 15 per cent in 1980-81 compared to the previous academic year. Paris is especially overcrowded with 45 per cent of all foreign students in France to be found here.

Meanwhile the government has decided that the vetting of foreign students' dossiers will no longer be the responsibility of the national committee. Since June, this task has been given to university presidents.

Finnish government keeps its secrets

from Donald Fields

HELSINKI Finnish historians are dismayed by a government decision to extend from 25 to 60 years the period during which secret documents are kept from public scrutiny. The immediate victims of this ruling are those researching events in 1956, the first year of President Kekkonen's long tenure.

Justifying the move, an interior ministry memorandum spoke of the need to "protect the privacy of individuals, the security of the state and relations with foreign powers". In exceptional circumstances the ministry of education can permit scholars access to classified material.

One outspoken critic of the decision is Mr Paavo Nikula, a government advisor and former Minister of Justice. He said the system was open to varying interpretations because of

a vague loophole in the 1919 constitution make possible a "continuation" of the secrecy period. He believes papers illuminating the political activity of controversial figures should be accessible after 25 years, but that salacious tidbits or data prejudicial to external relations should remain locked up.

In practice, the moribund 25-year rule was not applied consistently. The security police (Suopo) prevented outsiders from studying sensitive information accumulated in the early post-war years. Between 1945 and 1948 communists controlled Suopo's twin predecessors, the CID and the state police, and an allied control commission staffed by Soviet and British officers oversaw the Finnish transition to peace.

Assisted by stoolpigeons, the communists are believed to have amassed thick dossiers incriminating their

opponents. The right apparently resorted to similar tactics during its ascendancy in the 1930s.

Mr Seppo Tiliinen, the present head of Suopo, did not want to comment on the new restrictions, but emphasized that exceptions would be allowed. Rebuking charges that some researchers enjoyed preference over others, he said: "All those seeking the same material receive equal treatment."

In a cause celebre last year one of Finland's leading academics, Professor Georg Henrik von Wright, an associate of Wittgenstein in his Cambridge days, was denied access to non-political information on Otto Wille Kuusinen, the Finnish communist pioneer who died in 1964 after long service on the Soviet Politburo. Now Mr Tiliinen ascribes Professor von Wright's difficulties to "misunderstandings".

Dr Desi took over as rector from Dr Gazmend Zajmi who, together with two of his vice rectors, resigned on June 9. Only one of them gave a reason for his resignation, Dr Vladimir Bovan, who said that he did so in protest against the university's failure to act on a suggestion that the name of the late Marshal Tito should be incorporated into the university's name.

The university secretariat formally denied that any such suggestion was made. A few days later, however, Dr Jelka Matijasevic, dean of the philosophy faculty, said that such a suggestion had been made as early as May 1980 (Tito had died on May 4) by a group of history students.

The issue of Tito's name is far from trivial in the context of Kosovo. During the height of the unrest, a large number of schoolchildren at the Marshal Tito secondary school in Glogovac, scratched out Tito's name on their exercise books and replaced it by that of the Albanian and auxiliary workers at the school have since been expelled from the Communist Party, and 19 of them (mostly teachers) have been suspended.

Tito's name starts series of university protests

Pristina University in Yugoslavia, the scene of more than two months' unrest last spring, has now embarked on an "intensive action" programme, according to the new rector, Dr Miodir Desi.

The protests, which began over inadequate conditions in student hostels, quickly escalated into demands by Yugoslavians' Albanian minority for full status as a constituent republic of the federation, or even total separation from Yugoslavia.

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However, in a recent press conference, Dr Desi played down the nationalist implications of the unrest. The students had now, he said, grasped the enemy's goal and got down to their books. A new "code policy" would be adopted, and a special self-management agreement introduced at university level which would, he said, clear up existing "confusion" in staffing. He also censured senior lecturers who had not gained a doctorate, and lecturers without a master's degree. A number of the university staff had, he said, "jumped the rungs" to jobs to which they held no proper qualifications.

Slacking would no longer be allowed by staff members who, to date, had had a life of "considerable leisure". There would be a 42-hour week. At the same time ideological and political work is to be stepped up, and some lecturers who have been slacking in this have been sent final warnings of impending expulsion from the party.

In Belgrade, official explanations of the unrest stress that the living standards of students are a political, as well as a social problem. Commenting on falling living standards, the University of Belgrade, Belgrade radio recently made it clear that ill-fed and ill-housed students can easily be exploited by "hostile elements".

At the same time, much play is made of the presence of lecturers from Tirana in Pristina, although their number has fallen from 32 in 1974 to 16 in the last academic year, most of whom taught technical subjects where the scope for indoctrination is considerably less.



Michael Posner: jubilant



Sir Geoffrey Allen: influential

Finding any kind of employment for Vietnamese refugees as part of their resettlement in this country is a major task. Many are still shell-shocked after facing enormous hardship, and enabling those of professional status — like teachers — to attain equivalent posts is even more complex.

Such refugees are not only totally demoralized by their loss of "position" — teachers have a high standing in Vietnam — but they face the obstacle of having to become highly competent in English, and of retraining if they are to succeed.

Overcoming these barriers is the objective of a new, short and experimental course designed to reorientate around 20 former Vietnamese teachers which began this month for three weeks at West Sussex Institute of Higher Education's Bognor Regis College.

During the course, participants face an in-depth assessment which few if any prospective student teachers in this country confront. They will be examined to see whether they have the ability, skills and personality to retrain as teachers primarily for the maintained sector — and if not, to help them to other careers.

Carol Dalglish, head of the continuing education unit at the institute, has had extensive experience of the Vietnamese community both here and in Hong Kong's refugee camps, and designed the course. She says she hopes it will act as a positive shock particularly for those teachers who are extremely depressed about their future.

"Our main aim is reorientation to help those who have been professional in one environment see if they can adapt their skills to another," she points out. "We are asking them to keep a diary in which they will be able to express their opinions freely. In this way we can identify their real problems as a means towards assessment."

The idea for the course came from the British Council for the Aid of Refugees, one of the three organizations which together with the Home Office, under the Joint Committee for Refugees from Vietnam, is responsible for their reception and resettlement. It is funding the course at a cost of some £7,000.

Mr David Weston, director of education in BCAR's Indo-Chinese division, says it was inspired by his

Fighting on alien soil



Boat people arriving to start a new life in Britain

Patricia Santinelli reports on a course designed to reorientate former Vietnamese teachers

experience with African teachers, whom they made the central focus of another project.

Participants on the course were chosen on the basis of their past qualifications and experience as well as their ability to speak English, following a questionnaire sent to around 100 former teachers but to which about only 50 replied.

Many in their replies pointed out that they were not ready. Others, though, turned out to have dubious qualifications, having not been strictly honest about their backgrounds. "I felt that perhaps teachers had been written off. Yet through their skills in maths, physics, English and Cantonese, they could meet the needs of children in the Vietnamese community and so to speak become 'leaders' in the latter," he said.

Eventually, 26 were selected, but only 20 chose to come on the course.

A major problem was the risk for those who actually had jobs of giving up everything, for a course which might not, after all, lead to better opportunities.

Few had had jobs since being here and were mostly reliant on social security payments for which, to their astonishment, they were eligible. As one teacher said: "I find it very strange that this is the law since I have not contributed to the system. As a result, when anything goes wrong, I am afraid to complain, although I am told I must do so."

Most participants' reasons for escaping from their respective countries were very different and difficult to tabulate. Those who had left the South appeared to have done so mainly because of hatred of the communist system and the hope of better opportunities in other countries. Teachers from the North were

mainly of ethnic Chinese origin who had real fears of genocide and who in any event seemed to have had little choice to remain. Such is the case of Ha Bich Tung, a chemistry teacher from the North whose presence here is for her a very real personal tragedy.

Of partly ethnic Chinese origin, Mrs Tang, was forced to leave her country with her daughter, whilst her husband of pure Vietnamese origin had had to remain behind with their son.

She was encouraged to attend the course whilst on a preparatory course in English language. Like the others, she is keen to teach again but is concerned that she will never be sufficiently fluent in English, although she appeared to have few difficulties in expressing herself.

For Thanh Vu, a former philosophy teacher from South Vietnam who has been employed as a field worker in one of the reception centres almost since his arrival in Britain, the main obstacle is once more English.

He does not plan to make any decision until after the course, but his ambition as a teacher is to introduce Vietnamese culture to children and adults here.

Thanh Vu points out that hardly anyone in this country knows anything about Vietnam and that on the whole people seem to consider their 'customers' as very strange.

It is hoped, however, that many of the teachers' insecurities and lack of confidence in their abilities will be resolved by the course, which will give them some indication of their prospects.

In her introduction, Carol Dalglish warned them that the course was not intended to retrain them as teachers, but to inform them of what a teacher training course would entail, so that they could make up their own minds over what they wanted to do.

If the teachers decide to retrain, one of their options is to do a Bachelor of Education degree. It is thought unlikely that the teachers' qualifications would enable them to do a Postgraduate Certificate of Education course.

Another possibility is to do a degree in their own subjects and then follow this up with a PGCE. More than them will be encouraged to retrain in the secondary priority subjects in the hope that this will ensure their employment.

One of the unfortunate ironies of Dalglish points out is that it transpires from talks with the Department of Education and Science that those students who had previous degrees in post-A level qualifications will not be eligible for mandatory grants. It may also be that when it comes to a PGCE, their qualifications will not be recognized as sufficient entry requirements.

Solving such problems will undoubtedly be a task for the next few months. But for the moment, the energy of the institute's staff has been directed to making a novel venture succeed.

The course has generated enormous enthusiasm as well as concern over the complexities of designing one which will suit both North and South Vietnamese teachers.

Essentially, the course has four strands: teaching studies, English language, mathematics and study skills. More specialist help such as careers advice was also included, but depended entirely on particular students' needs.

Teaching studies, for example, included such elements as class control and behaviour together with the variety of styles that can be developed, among them "the teacher as director and guider of learning".

In the English section, emphasis was on the assessment of students' performance in oral and written English, with reference to their prospects as teachers and their ability to follow a teacher training course.

In mathematics, the main objective was to enable staff to recommend students suitability and for the students themselves to decide on their own aptitude.

In study skills and social orientation, the aim was to enable students to develop listening, note, discussion, essay and study-visit skills, as well as form an understanding of the British way of life — and of the country's political, social and economic climate.

Throughout these four sections, tutorials were to play a significant role.

in previous years. The way this would be the common fund is refined, so the further fund can be geared more and more to educational judgments and decisions. For 1982/3 however the further fund is likely to be linked to the gap between what an institution spent last year and what they will receive from the common fund. A second method would be to link it to the gap between what lecturers actually cost and what is allowed for in the common fund. These two schemes form columns three and four of the table.

The most difficult task will be finding some way of allowing for an educational input into the system. At that, however, is next term's report. For the moment the end of the report on the Jones group should probably read: "Conscientious; very hard working; some very good ideas which need to be worked through in future terms. Should do well."

Paul Flather

HOW THE UNIT COSTS MIGHT WORK

	1	2	3	4
	Total spending 1978-80	Common funding average SSR + 20%	Further funding Method 1	Further funding Method 2
Polytechnics	17.8	12.0	4.8	4.7
NGLP	17.8	12.0	4.8	4.7
Middlesex	19.7	12.0	5.4	4.0
Kingston	19.7	12.0	5.4	4.0
ILEA	19.7	12.0	5.4	4.0
Manchester	19.7	12.0	5.4	4.0
Liverpool	19.7	12.0	5.4	4.0
Sheffield	19.7	12.0	5.4	4.0
Newcastle	19.7	12.0	5.4	4.0
Sunderland	19.7	12.0	5.4	4.0
Birmingham	19.7	12.0	5.4	4.0
Coventry	19.7	12.0	5.4	4.0
Wolverhampton	19.7	12.0	5.4	4.0
Huddersfield	19.7	12.0	5.4	4.0
Leeds	19.7	12.0	5.4	4.0
Bristol	19.7	12.0	5.4	4.0
Teesside	19.7	12.0	5.4	4.0
Plymouth	19.7	12.0	5.4	4.0
Nottingham	19.7	12.0	5.4	4.0
Portsmouth	19.7	12.0	5.4	4.0
Halifax	19.7	12.0	5.4	4.0
Preston	19.7	12.0	5.4	4.0
Leicester	19.7	12.0	5.4	4.0
Truro	19.7	12.0	5.4	4.0
Oxford	19.7	12.0	5.4	4.0
North Staffordshire	19.7	12.0	5.4	4.0
Wales	19.7	12.0	5.4	4.0
Total	366.8	266.3	66.6	67.3

Note: All figures in £ million correct to one decimal place.

Unit costs — the other debate

Perhaps partly because of this, the DES has determined that the report should be ready in plenty of time to allow the local authority organizations to comment. The report will go before ministers probably at the beginning of September for almost certain approval, and also before a series of regional meetings planned by I.E.s.

By the time the quantum, or size of the public sector pool, has been determined in the autumn, the mechanism should have been refined, and the various computer programmes adjusted so that unit costs can be in force for 1982-83, a major change in the life of polytechnics since Crosland's Woolwich speech 15 years ago.

What will change? The story begins in 1979 when the new Conservative Government, largely for political reasons, threw out the Oakes plan for a both to make authorities more accountable for their spending, and to close the open-ended commitment to funding higher education.

But the effects of this new ceiling fell in an arbitrary and often haphazard way on particular institutions, leading the DES under some public pressure to set up a study group in early 1980 to start the task of devising a more equitable system. The ad hoc system they came up for use this year however still has two major defects.

First, the current arrangements can be manipulated. Extra high claims or bids can be put in, and student numbers can be exaggerated. Even if these claims are reduced as the actual figures emerge, it does mean that some institutions get away with borrowing money cheaply while others suffer.

Secondly, making "judgment-free" reductions in the various bids put in by I.E.s had the disadvantage of making no allowance for different patterns of

education followed by different authorities. High claims was the reason why the pool for 1981-82 by 14.5 per cent. All the bids were scaled down without judgment, and the real savings made by some I.E.s were masked. They had not played the pool game — and they lost out.

When the Jones group reconvened in January this year — and it will have to reconvene again after the autumn — it wanted to end all manipulation, to move formally onto a unit cost escalator, to lay the foundations for a system they could refine in future years, and finally to leave room for some educational input in future cash distribution.

The first task, taken on by a subgroup chaired by Mr D. S. Humphreys of the DES, was to examine the current expenditure data in all 29 polytechnics and a sample 82 other major colleges. The sub-group quickly confirmed that student staff ratios played the major part in producing varying costs inside institutions, with minor roles ascribed to London weighting and to subject mix.

The sub-group came up with a model which took as its pivot lecturer cost per student, and the fact that this produced a good fit on current expenditure levels reinforced the viability of the model.

The Jones group then came out in favour of a two-tier system of funding, in the core of "common funding" to institutions will be distributed according to a national SSR linked to student numbers, and "further funding", probably linked to past spending levels.

The study group has identified various ways of arriving at this overall SSR figure. Most likely they will use the actual average SSR in a selected base year, increased by 20 per cent to allow for authority ends up receiving more common funding than it spent on AFE

work inside the DES. The plan is that as column two of the table.

The more generous this SSR is, the larger share of the pool will go into the common fund, and the less will go to the further fund. The actual split between the two funds — say 80-20 or perhaps 70-30 — will have a profound effect on how the so-called "excess fund" will fare in future years.

Polytechnics such as Middlesex, £4.3m over, or Sunderland, £3.2m over, will want more for the further fund; conversely the "under-spenders" such as Oxford, £2.2m, Manchester, £2.2m, and Newcastle, £3.6m, will want a larger common fund.

The details are being worked out



From the school's archives . . . a walking session at Lochdar, South Uist, the late William Barclay Henderson of Gloup, Yell, a Shetland fiddler and (below) Duncan Williamson, traveller storyteller, singer and craftsman, weaving a basket.

Culture conservers' race against time

Olga Wojtas on how Edinburgh's School of Scottish Studies is hampered by the cuts in its fight to record tradition

The School of Scottish Studies in Edinburgh University celebrates its 30th anniversary this year. However, all the usual good wishes have been sounding remarkably hollow.

Nobody is suggesting that the school faces closure. But its work is seriously threatened by financial cutbacks, and unlike many departments, the school cannot wait and hope the financial situation eventually improves. For the staff are only too conscious that they are involved in a race against time.

Originally intended as an interdisciplinary centre coordinating research on Scottish subjects, the school quickly established itself as, in effect, the national institute for Scottish folklore and music.

But the depopulation of rural communities, particularly in Gaelic speaking areas, and increasing mechanization, mean that tales and customs are no longer being passed down from one generation to the next.

The tradition bearers are the old people. One man who gave the school scores of hero tales had not told his stories to anyone for more than 50 years.

When the school's work began in 1951, the field work was carried out mainly by Dr Calum MacLennan, brother of the Gaelic poet Sorley MacLennan, who transferred from the Irish Folk Commission for whom he had already been collecting Gaelic songs and stories from the Hebrides. He followed this up with research in Gaelic speaking areas on the mainland while the Scots poet and songwriter Hamish Henderson began work in the Lowlands and North east.

The tape recorder was coming into its own. This gave the school an enormous advantage over the Irish Folklore Commission which had been using wax cylinders which were transcribed and then reused. All the school's tapes have been preserved and now represent six and a half months' non-stop listening.

The collecting of traditional songs precipitated the Scottish folk revival of the 1960s, with many singers learning songs from the school's tapes, often backed by visits to the original singers.

While virtually everyone would agree that the songs are better being sung than simply mouldering in the school's tape archive, there is some concern that they can end up transformed beyond all recognition by people out for commercial success with no thought for whoever sang it originally.

But there is now easy access to some of the authentic versions of songs saved by the school, as it has issued around ten records and cassettes, produced by Tangent records.

These include Shetland fiddle music, traditional Scots ballads and various exponents of pibroch — a type of tune played on the bagpipes.

One of the most fascinating records is that of walking songs from Barra. Songs were used to lighten the back-breaking work of "walking the tweed" when the women sat round a board, tightening the newly woven tweed by kneading and pounding it for several hours. The web of tweed had often been

immersed in urine to remove the oil in it. One woman would sing a single line or couplet, with everyone joining in the refrain. Cloth is now almost never walked in the weavers' own homes.

The records and cassettes are not available through the school, but most large record shops stock them.

The school also produces two publications. *Scottish Studies*, an academic journal which covers among other things folk tales, musicology and place names, and *Tocher* (the Scots word for a dowry) for a more popular readership which contains Scots and Gaelic folk tales and songs direct from the archives.

Obviously field work and tape recordings are highly expensive. Another innovation is again proving invaluable from the research point of view, but is unfortunately prohibitively costly.

Film and videotape are the only truly adequate way of recording crafts and traditions. A film has been made, for example, of a walking on South Uist. But filming has virtually come to a halt because of the expense — the school has no separate budget for it and sending a team of four to six people with equipment and vehicles to the Hebrides is impossible.

The school recently managed to film the complete process of a basket being made in the traditional way with straw and rushes by a Shetlander — but only because the man travelled to Edinburgh with a suitcase full of straw.

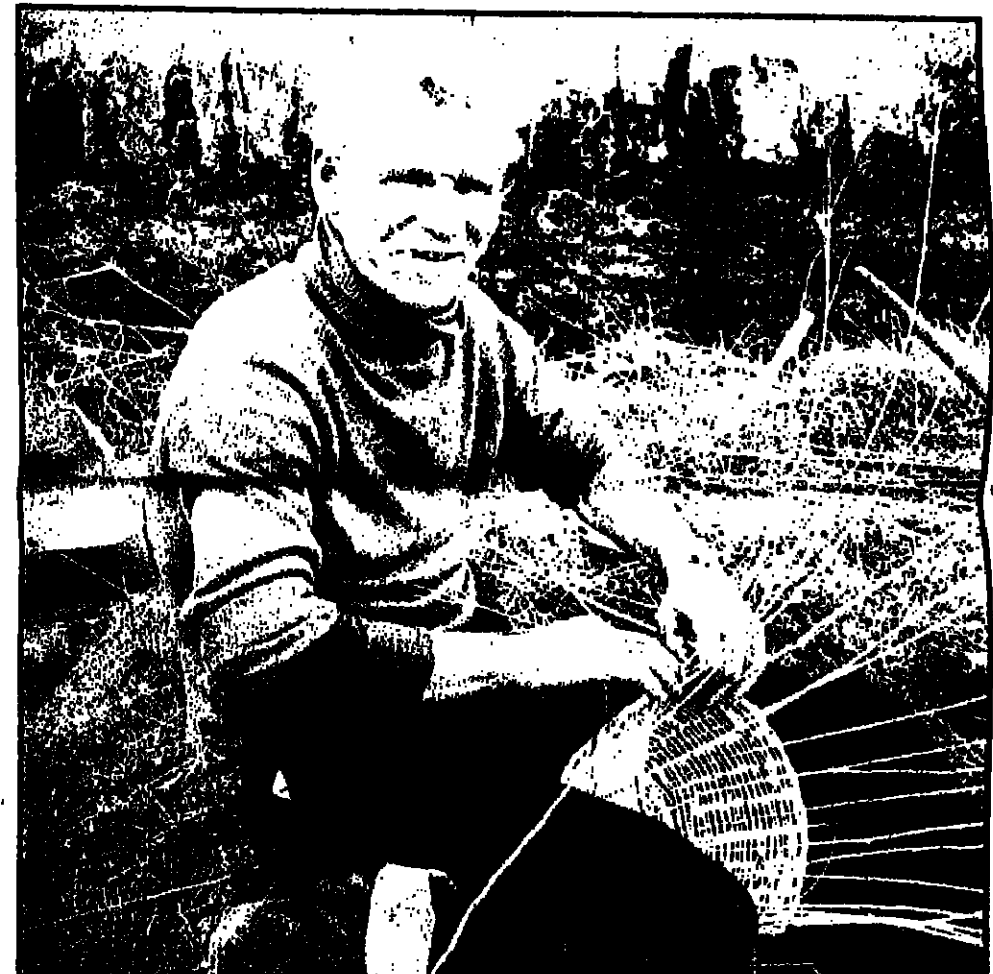
This had never been filmed before, and school staff fear that other processes which are dying out, such as making a heather rope, or a horse collar of bent grass, may never be recorded.

The school's staff have been intrigued to find that while a person from an urban society who is perfectly used to machines as part of day to day life would put on a conscious performance for a tape or film, these informants who may never have encountered such things before often become totally oblivious of the microphone or camera.

"They're aware that they have something important to communicate to you, and they're terribly aware of the importance of their tradition," says one field worker. "People don't gather together in the evenings to tell stories any more, and there is no longer the economic necessity for many of the work implements. Very often they have no audience to count on in their own community and they see you as part of the process of maintaining the traditions."

Unfortunately, there is no easy way of finding these tradition-bearers. It is almost entirely dependent on field workers going out to small communities and simply knocking on doors. One favourite technique is to get in touch with the local doctor who is often dealing with old people and is likely to know if they have a fund of songs or stories.

But field work is time-consuming and tiring and is best done by young, vigorous people. The university cuts are taking their toll, for



while the school's staff are far from being in their dotage, there has been no infusion of new blood for some years. The only post to have fallen vacant recently has not been filled. And this comes at a time when the school feels its field work should be expanding before the tradition bearers die out completely.

One of the great hopes for the future is work among the travelling people of Scotland. The school's archivist, Dr Alan Bruford says: "We are finding an astonishing and unexpected wealth of lore, particularly folk tales, among Scots speaking travelling people who are just coming to accept that the outsiders who used to despise them can actually admire them as the custodians of a unique heritage."

But although the school has suffered a loss in staff and funding, over the years it has expanded its field work, research and teaching.

It was not originally planned as a teaching department, but now runs two undergraduate courses in oral literature and popular tradition. There is also a course on Scottish place names for English language students, and staff members teach part of the Scottish literature course.

The school is the only place in the United Kingdom to run full courses in folklore and folk music, and this has attracted a number of foreign as well as home postgraduates. At present there are two from Kenya being trained in the school's work who will do similar work for the Kenyan National Archives. Other students are studying the protest songs of Chilean exiles, and Indian music used in West Indian communities.

Because of this increasing teaching commitment, the school, which began life under the umbrella of the university court, is now part of

the arts faculty, and is funded from the arts faculty budget.

Its work being of necessity much more expensive than that of a normal teaching department, its budget has already been cut back.

This has revived all the questions about the place of the school in Scotland. Many people feel it should be a national institution, and that it is unfair that Edinburgh has to bear the entire burden of its upkeep.

The principal of Edinburgh University, Dr John Burnett, has said he finds it astonishing that there is no Government grant for something which must be a national treasure trove.

The school, whose inspiration was the institutes of local studies which already existed in Scandinavia and were springing up in Germany, was primarily based on the Irish Folklore Commission, an independent Government department.

It has since become the department of Irish folklore in University College, Dublin, as a result of its own increased commitment to teaching, but unlike the Scottish School, it had already collected a considerable amount of material in the 1940s.

There is no comparable institution in England, but the Welsh Folk Museum, a civil service department, has been recording substantially over the past 15 years or so. However, neither the Welsh nor Irish institutions can compare with the Scottish school's recordings of songs.

Despite the undercurrent of dissatisfaction with the school's present status, it is impossible to think that in the present economic climate it could achieve its ideal of being a nationally funded institution with a teaching presence in all the Scottish universities.

North is north and south is south

From Disraeli to David Storey many British novelists have become preoccupied with the 'two nations' of our society. This is the ostrichism of the Home Counties and the resentment of the industrial north and Midlands. Laurence Kitchin traces the testimony which the novel has borne to this sense of division.

"Elemental creatures, weird and distorted, of the mineral world." That's Lady Chatterley's estimate of the miners. It's important that she comes from Sussex, a county unpolluted by the Industrial Revolution, a county which didn't return a Labour MP until 1945 and where shepherds with crooks and smocks were still at work in the 1920s.

After the chauffeur-driven ride through the area which crystallizes her estimate, Connie Chatterley is glad to get home "to bury her head in the sand." That is what an initial part of Britain has been doing ever since the steam age bit into the landscape and into the residue of a feudalism undisturbed by invasion. The gentry of the Midlands, as Lawrence remarks in the same chapter, "were departing to spend their money without seeing how it was made." Nowhere but in Britain is the geographical segregation of heavy industry so reinforced by the habits of social caste. If you think those two factors are the key to present violent confrontations, there's plenty of evidence to be found in novels from Disraeli to David Storey. On one side there's ostrichism; on the other resentment so deeply rooted that Lawrence in his maturity dreams up a fantasy of the lady of the manor seduced by a minor's son.

Mrs Gaskell in the underrated *North and South* (1854-55) exhibits one particularly blatant case of ostrichism. This novel, more so than anything pre-Lawrence, makes bold to cross the "two nations" boundaries. It finds room for a strike, cheap labour imported and an angry riot. The heroine from the Jane Austen country marries a millowner and actually stays up north. But there's a secondary character, at first glance no more than an agent of contrivance to the plot, with implications the author seems unaware of. This is an absentee landlord named Bell, presented as benevolent and dying on cue to finance Margaret Hale's marriage with a legacy. Allied to the husband's industrial skills, her concern for their welfare will be good for the workers. Altogether a consoling resolution, fit for the liberal readers of *Household Words*, in which the novel was serialized. The only snag is that the angle of a ruthless, compromising imagination, that of Balzac, let's say, or Dickens, the money is tainted.

Mr Bell is an Oxford Don. He makes one of his brief appearances when Margaret is staying with an aunt in Harley Street, and an epicurean way of life is hinted at by his report of the decline in cooking at his London club. He has just been to Milton (Manchester) and come back, as he says of its pollution, "smoked." Earlier in the novel we've seen him there, attacking the place for its hurry and acquisitiveness, its neglect of the art of sitting still. The irony of his attack takes second place to a discussion of high culture in opposition to the industrial work ethic, but the irony is that Mr Bell is a native of Milton. Though he dislikes the place, he has tenants, houses and even mills there. In fact, he has a vested interest in the human social conditions repeatedly exposed in the novel. He goes to Milton reluctantly at five-year intervals, losing his way among the warehouses built, pre-Chekov, on the site of his father's orchard.

On second thoughts, Mrs Gaskell can't have been totally unaware of the minefield, planned in that orchard. Margaret accuses Mr Bell of "Oxonian medieval bigotry" and her father mentions the automatic rise in value of the property. None of this makes a dent in Mr Bell's complacency, however. "I don't want to be more liberal minded," he says

equally. Once only he lets slip an opinion out of tune with his benevolent function in *North and South*, an opinion not followed up but which gives brutal coherence to the incoherence scattered about, always when the reader's attention is chiefly on other characters. This is where he's asked to define enjoyment and does so as "enjoyment of the power and influence which money gives."

Conflict between the privileged, Margaret, and the recently privileged, her millowner, is the backbone of *North and South*, with attitudes to the labour force sparking it. How, then, did the dimension represented by Mr Bell, who foreshadows sub-Brechtian stereotypes of the Establishment and Lawrence's critique of the intellectual elite, get into a mid-Victorian novel? It isn't fully realized, but the material is there. As already said, this finally sinister plot only slips in by the back door of a happy ending, he can't be discredited, though the author's suspicions about him surface in good natured dialogue.

Mrs Gaskell, in Manchester, was nobody's fool. Owing to the shape of her story she was stuck with a benign Mr Bell and too sharp a focus on him would not have been tolerated by readers at that date. He remains even now in the foreground of "two nations" conflict, whenever Oxbridge real estate interests are at issue or hard-line stances are taken up by politicians trained in the classics.

That a future Tory Prime Minister should be one of the few English novelists to read, now and then, like Engels may be a consequence of Disraeli's race. The Jew sees northern miners, black faced from the pit, as "a gang of negroes at a revel." Book III of *Sybil* or *The Two Nations* (1845) begins with a panoramic view of coalfields diversified with slag heaps and houses aslant through subsidence. Girls, trousered and topless, are hauling coal tubs underground for up to 16 hours a day. The air-drobs of the galleries are in charge of infants of four and five; light duty performed under penal conditions. These circumstances, Disraeli remarks, "seem to have escaped the notice of the Society for the Abolition of Negro Slavery." At another extreme to the negroid colliers he shows a wealthy lawyer taking a pint of champagne with dinner at the Athenaeum. Even the too Romantic heroine speaks of "mutual ignorance between the classes." A friend of hers spells it out: "Two nations; between whom there is no intercourse and no sympathy; who are ignorant of each other's habits, thoughts and feelings, as if they were dwellers in different zones, or inhabitants of different planets."

The humanization of miners in the novel had to wait until 1913 and the early D. H. Lawrence; rather late in the day when you consider their function as extractors of a mineral from which the entire industrial revolution, steam power itself, depended. But for the unlikely event of a genius being born in a mining family, crossing the geographical and cultural divide into the southern elite, and reversing the usual angle of vision, the novel would have been impoverished more than half of society. It literature shorn of Sassoon, Graves, major fiction is under any obligation that it does tend to give information about radical alterations in the human condition, of which the Stenn would have been left with the traditional model, of Conrad, international, and of the Home Counties, country house from Austen to Com-

ton-Burnett; formidable but incomplete, and certainly not much of a guide to the debilitating post Second War fiction diagnosed by Koestler as uniquely British and stemming from caste antagonism.

Although Lawrence's *Sons and Lovers*, avowedly a "colliery novel," charts a protagonist throwing off his working-class environment, it does so on the way a sub-culture well worth knowing about. The fact that the miner's wife wants out of it and that he himself is disapproved of by the family - "Nobody told him anything" - ensures that the colliery life comes through at a slight remove, without melodrama or conscious sociology. Walter Morel's drunkenness, though he drinks "no more than most miners," and his outbursts of brutal self-assertion are described. So in his moment of dignity when the Friday night share-out takes place at his house, wives excluded, and his mates keep their distance from the hearth, which is sacred to the family. The distribution of the wages is given in ritual detail, with a prompt return to Morel's limitations where he leaves a paltry sum for his family and takes off to the pub.

In two other episodes the physical hazards of the job are so entwined with domestic action that they only register fully if the reader makes an artificial pause. One is a typical enoysa washing in the scullery, but where coal dust has lodged in Morel's skin. The other centres on a pound fracture of the leg. Instead of speculation as to what he'll suffer during a 10-mile ambulance ride to Nottingham, some of it over "kiddie" (gravelle sets), why there's no hospital nearer to the mine, why

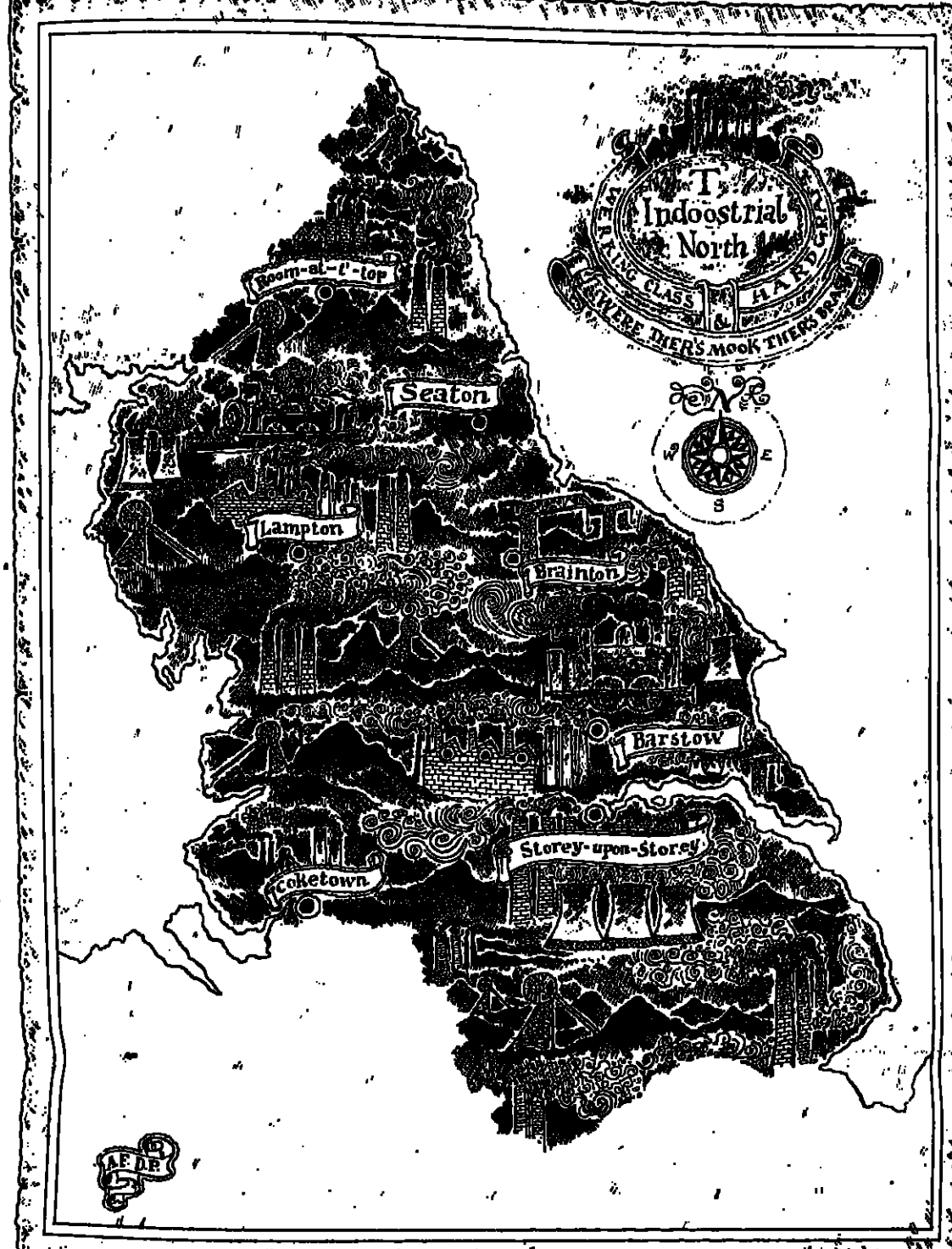
to select a view of it from the Pur-

beck Hills. Portsmouth gets into the picturesque vision at a comfortable distance, even the City of London as stockbroker's Bournemouth. There are railways in sight, and ships. But the paragraph swells into a claim that the imagination here "becomes graphic and encircles England. Geographic no, not when it takes in nothing north of Salisbury plain but 'glorious downs.'"

Significant is the role played by King's Cross Station, a building which came to be admitted in the 1930s as industrial architecture with two identical train sheds expressed in its arched facade. "Overwhelming honesty," says Ian Nairn. Forster calls the two great arches colourless and incoherent. Puddington continues up Cornhill, Liverpool Street he defends, Waterloo West, Euston, with nothing in between of course, Scotland: the tourist syndrome. With King's Cross the passage demagogues. There are anxious appeals to the reader, uneasy distinctions between the author's reaction to the terminus and that of his character, Margaret Schlegel. To her it suggests - guess what? - Infinity. And in practical terms Infinity comes to no further up the line than Hordens, perhaps somewhere in the neighbourhood of Hitchin.

With the exception of a journey to Shropshire, faintly clear of the coalfields, that's as far north as the people in *Howards End* go. In the mainstream Home Counties novel set in country houses, that wouldn't matter. Indeed, as in Jane Austen, it would make for strength. But Forster aims to speak for England as a whole. On the Purbeck Hills he strains to include it in the picturesque. At King's Cross his imagination breaks down. Sensing material outside its range yet necessary for a total vision, it drowns in Infinity. Another passage calls the sky above

... and ne'er the twain shall meet



the station "infernal."

The tensions set up by King's Cross were two-way, and still are, perhaps. To the gentry a ride north through the factory areas gave contact with railway staff notably different in speech and bone structure from their London equivalents, not to mention restaurant service inferior to that of the old Great Western. It was like going abroad, though not for cultural benefit. Conversely, loud foreigners erupting from the terminal before a football match were invading Babylon. We have a glimpse in *Sons and Lovers* of Walter Morel's wife on arrival at King's Cross from Nottingham, drifting from person to person, desperately asking the way to Elmer's End. In David Storey's *Flight into Camden*, of 1960, a miner makes the expedition south in hopes of rescuing his daughter from an affair with a married man. The strangeness of his northern accent in London is mentioned twice. After a short stay there she scarcely recognizes his voice. He looks blankly at the crowds outside King's Cross and remarks that he hasn't been in London for 30 years, then is upset by foreigners and unfamiliar accents. "It was all unreliable, the sounds alone weren't trustworthy." Back in the end at the terminus, after failing to reclaim her, he sits morosely in his compartment and the station is "full of the long emptiness of his journey north."

By the 1960s you could identify two separate traditions of the English novel according to the distribution of the coal seams. On one side the barriers was the country house tradition, abandoned by Forster but continued by Hartley and Compton-Burnett with the action backdated to 1900 and earlier, before the emergence of a genius from Eastwood had complicated everything. On the other were the meritocrat novelists,

inheriting from Lawrence the ability to describe the feelings of working class people in their own terms. These were inferior artistically to the Home Counties school but may be taken as spokesmen for people, places and attitudes which it left out for the England north of Hitchin. Popular equivalents now would be Lord Peter Wimsey and Coronation Street. That the gentry and others identifying with them would still like to keep up the barriers is suggested by a search in the dimmed-out West End bookshops of January 1974, a time of economic and political crisis. Disraeli's *Coningsby* was available; but *Sybil*, the novel venturing across the barriers and with something to say about miners, was out of stock. Shelf after shelf of the Palliser chronicles were on display, in order to cash in on the ambitious television series. More evidence of nostalgic elitism was supplied by *Upstairs, Downstairs*, a condescending backward look at the country house labour force. Coupled with virulent Press controversy centred on wage demands by the miners, these tendencies could leave a visitor with the impression that here was a country, uniquely divided, which didn't want to know itself.

During the inter-war and the Depression, novels are polarized, with Powell and Waugh metropolitan and ruling class. The Gorbals documentary *No Mean City*, at the other extreme, could be describing American ghetto behaviour of the 1970s, sex on the landings of walk-up tenements. Dialogue across the barriers is next to impossible. Instead you have evasive suspicion on one side, sullen resentment on the other. The fictional prelude is *Women in Love* in which Lawrence, Garston insider with experience of the industrial nation, is concerned with more

personal barriers but now and then reveals the feelings of working class people in their own terms. These were inferior artistically to the Home Counties school but may be taken as spokesmen for people, places and attitudes which it left out for the England north of Hitchin. Popular equivalents now would be Lord Peter Wimsey and Coronation Street. That the gentry and others identifying with them would still like to keep up the barriers is suggested by a search in the dimmed-out West End bookshops of January 1974, a time of economic and political crisis. Disraeli's *Coningsby* was available; but *Sybil*, the novel venturing across the barriers and with something to say about miners, was out of stock. Shelf after shelf of the Palliser chronicles were on display, in order to cash in on the ambitious television series. More evidence of nostalgic elitism was supplied by *Upstairs, Downstairs*, a condescending backward look at the country house labour force. Coupled with virulent Press controversy centred on wage demands by the miners, these tendencies could leave a visitor with the impression that here was a country, uniquely divided, which didn't want to know itself.

Class antagonism on the part of the workers, where it tends to dehumanize the other nation, is every bit as sterile as the reverse. Lawrence in the inter-war *Lady Chatterley's Lover* goes both above and below the norm: To have Clifford literally emasculated in a melodramatic distortion of the theme, a legacy of social spite. Squire Winter, on the contrary, is a result of compassionate insight. Through him we see the conflict from the other side. He's a generous man, recognizing the miners as the source of his profits, but flinching from their "alien" presence. Not the sort to leave for pleasanter places, he's engulfed by the industrial logic of his own mines. His estate hemmed in by new villages, he feels that he doesn't belong there any more!

The diagnosis of two-way prejudice which Lawrence extracts from Squire Winter's predicament is usually avoided by English novelists. Better to steer well clear of it, as much in life as in fiction. Chekhov doesn't; but he has a foreigner's license. No, better preserve a distance no closer than the abstractions of analysis in the responsible Press. But in fiction of the 1950s and 1960s ingrained and ugly attitudes persist. Hypergamous anti-heroes of meritocrat "redbrick

novels are out to lay Connie Chatterley's ghost, with a boss-class or official-class rival as the loser. Joe Lampton, seducing a St. Clair within view of the family estate, includes its entire history in an outburst of inherited spite. Amis, mellowing into tolerance of an officer type in *Take a Girl Like You*, still charts the decline of an ageing peer's masculinity in terms of a torch battery. In both cases gratuitous, a tonal intrusion on the novel. A better way to deflate the aristocracy is Wodehouse's, by stressing the all round superiority of a servant.

Meanwhile the Home Counties novelists did well enough in these decades by backdating or otherwise protecting their characters from Welfare State alterations. Parallel to them the other stream, several of them brought up in colliery families, began exploiting the midland and northern townscape, Nottingham and the Wakefield-Leeds-Bradford triangle. Sillitoe, Braine, Storey and Barrow wrote in hopes of a mass paperback market and in confidence that working-class novels were now acceptable to the reader. In these novels the centre of gravity in fiction has moved north. Family conflict stems from steam age attitudes at odds with the young protagonists. Now it's the worker parents who are Victorian; hard, puritanical, suspicious of education, which is seen as defection to the other nation. There is respect and compassion for these elders, even on the part of Arthur Seaton, the anarchical hero of *Saturday Night and Sunday Morning*. And it's significant that the one friend he makes during his 15-day military training, fuming against "Them at the top" - the bastards that put the gun into my hand - is a collier.

Colliers are sacrosanct. They're shown as inflexible, unimaginative, repressive parents; more often, as in Barrow's *A Kind of Loving*, they're benevolent advisers and drinking companions. They are never ridiculous. Collectively they have become culture heroes. One of the novels, too downbeat to make paperback, concerns a musician who needs to market his composition through contact with the local elite. He redirects his energies to the creation of a new work for his miner father's unique in its interplay of two aspects of the national life which, in fiction at any rate, rarely meet. What Harris had recognized is a debt to the older generation. It happens also in *Flight into Camden*. The father and daughter, shown later at King's Cross, confront each other at the colliery gates when she collects his wage packet. Education and the job itself have put miles between them. "I'd never considered the pit, nor my father in it. I'd forgotten it," she concludes. "I'd given him the pit, and taken everything that was left over."

"I'd given him the pit" - and the virulent reaction to the General Strike of 1926, and in 1980 the lowest wages of any miners in the EEC. That will do as a summary of the country's attitude to the shock troops of its industrial revolution, subject to lung damage and violent death as a normal occupational hazard. Their sub-culture is repositioned in popular novels like *How Green Was My Valley* at the price of consoling ritual with classical overtones, where a chorus of wives wait stoically for disaster survivors to reach the pit head. It's respected too by the Storeys and Sillitoes, whose future, like Lawrence's, lies outside the coalfields. For education itself, from Lawrence to Storey, is the collier's enemy because it separates him from his children. Armed with an idiom, a cultural tradition which means little to him, they cross the barrier intellectually and in geographical fact, with a respectful and sometimes impatient look back. At least they know it's there and feel guilty.

But why are the English novels after *Sybil* a-political? Why, both in fact and in fiction, did the barriers not become barricades? Zola's *Germinal* takes you down the mine in a way English fiction doesn't. The framework, however, is political from the start, the protagonist a stranger to the area who leaves at the finish. Colliers at the crisis are

shot down. But the realism is that of a metropolitan intellectual who has done his research on the spot, finally of a visitor. There is nothing of the insider's sense of security to be found in our colliery novels. Perhaps their quietism is a consequence of decency, political maturity, "live and let live." Or of "mutual ignorance between the classes," of parallels wrenched into fleeting contact at King's Cross. At any rate a class-conscious, sullen resentment is as far as rebellion gets.

Yet Disraeli's extremes of slave labour and clubland luxury have the blameworthy tendency to project civil war and outside Britain does. It hovers in *North and South*, *Sybil*, and *Flight into Camden*. Significantly it's the partial outsider Disraeli who is the only one to imagine the ultimate aristocratic nightmare, the sacking of a country house. Though the rioters perish with it, Mowbray Castle is burnt out. To appreciate the boldness of this you need to remember what happens to intruders on upper-class retreats in subsequent fiction; in *To the Lighthouse* anxiously ridiculed by the author, in *Howards End* struck dead. These places may nevertheless have had a crucial role in the defusing of potential violence. Disraeli foresees it where an intrepid lady distributes food to an army of strikers and allows them to make a tour of her park. Today the latter practice is almost universal and sometimes profitable as well. "Typical English compromise?" Symbolic invasion and plundering, cooled in a ritual?

Certainly "mutual ignorance between the classes" is revealed by English fiction. It appears to be a factor in the conflicts of 1980. If you believe that a Tolstoy, a Dickens or a Flaubert tends to regard ingrained national attitudes as a challenge, something to be assimilated by his work, then English novelists have not done too well. And since their literary tradition is an impressive one, why not? The elitist comedy of manners has had a good run, including with Powell and Waugh to what Disraeli calls, referring to clunmen, "the respectable practice of a decorous profligacy." Meritocrats have brought north and Midlands to the screen and paperback. The barrier has scarcely been breached. What's disappointing is that Lawrence, re-confronted after Home Counties and foreign travel, saw the miners much like Disraeli, as brutalized. "Elemental creatures, weird and distorted, of the mineral world!" exclaims Lady Chatterley, with how much assent from the author can only be guessed. "Perhaps with the passing of the coal they would disappear again," she concludes, "off the face of the earth."

In 1974, of course, the coal had not passed. Anything but. A few days before the election a *New York Times* correspondent wrote of "sustained lack of communication between Mr Heath and the miners - even when they were talking in the same room." With bookshelves groaning with *Troilope* and *Sybil* "out of stock," it may be forgivable to dig once again into Disraeli's capricious and artistically unassimilated wisdom. Trade unionists no longer swear on their initiation to assassinate tyrannical masters. But the same caricatured workman in *Sybil* remarks: "The only thing, my hearties, that can save this here nation is a good strike." Later we're told that the miners' joining textile workers in protest is a danger sign. It guarantees violence and a determined course. "Some political head behind the scenes" is suspected; and the miners' revolt by combining "several counties and classes of labour in the broil, must inevitably embarrass and perhaps paralyse the Government." The outcome is announced by *Sybil* herself: "When Toil ceases the People suffer. That is the only truth we have learnt, and it is a bitter one."

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BOOKS

James's search for the civilized ideal

Culture and Conduct in the Novels of Henry James
by Alwyn Berland
Cambridge University Press, £17.50
ISBN 0 521 23343 7

by Patrick Parrinder

Every great novel, according to D. H. Lawrence, contains its own metaphysics, or theory of being. So also every great novelist may be seen as contributing to the utopian idea, the notion of a perfect society or a perfect way of life. Certainly this is true of Henry James. In *Culture and Conduct in the Novels of Henry James* Alwyn Berland views his fiction as an attempt to "think out an ideal civilization and to ponder its effects on the men and women who might live in it." James's ideal is at once a culmination of certain aspects of the western tradition, and the statement of a faith which has been steadily eroded as the twentieth century has progressed. Many recent writers have evoked it in a nostalgic spirit, but its one major modern exponent, Berland suggests, is Thomas Mann in *The Magic Mountain*.

Only once, to my knowledge, does James commit himself to a formal utopia. This is in the story "The Great Good Place", where George Dane, a harassed and ill-too-successful novelist, dreams that he has escaped from the fashionable world to an idyllic retreat which combines the best features of a country house, a convalescent home, a London club and a monastery. This non-place of silence and repose is "a hotel without noise, a club without newspapers", and James might have added, a convent without prayer. To Dane it is "The Great Good Place", while to his confidant among the other inmates (the "Brothers") it is "The Great Want Met". Though set in an idealized home-land rather than a named part of the Alps, George Dane's paradisiacal retreat has clear affinities with that of Hans Castorp in *The Magic Mountain*.

Unlike Mann's International Sanatorium, Berghof, the Great Good Place robs its inmates of their social identities. Dane and his "Brother" sit around "as nobody talking with nobody". They can stay only until their "inner life" has been revived and restored, and then it is time to return to the everyday world. Moreover, their stay has to be paid for, in sovereigns and shillings placed "ecstatically" in a receptacle in each person's room. The money will be removed in due course by the "unobtrusive effaced agents" who are always at work, James's dehumanized language suggests an Axel's Castle in which the servants have to do all the work and, perhaps, the living too. George Dane is aware of a total divorce between the passive "inner life" and the life of industry and decision from which he, a suc-

cessful writer, is so keen to escape. James, of course, wishes to reunite the inner and the outer life - though within the limited social context suggested by Dane's dream of finding an agreeable young man to take on his duties while he goes on an expensive health cure. While Professor Berland does not mention "The Great Good Place" in his lucid and persuasive study, it fits his theme exactly. George Dane's recuperation of his inner life enables him, once more, to face the responsibilities of his social position. James, then, is not an ivory-tower aesthete. The Hellenism of the Great Good Place and the Hebraism of Dane's overburdened public life are both essential to civilized existence. Beauty is insipid without morality, just as morality is worthless without beauty. One of Berland's main objects is to show how much James is the disciple of George Eliot and Matthew Arnold.

Eliot and Arnold differ from James, however, in the extent to which they are committed to democracy. Unlike the majority of the Masters' critics and epigoni, Berland is careful to concede the narrowness of James's social sympathies. Undoubtedly he was too much possessed by the idea of an aristocracy of "fine consciences", and by the reality of the English upper classes whose dinner-tables he so frequently graced. The role of the manservant Brown, in "The Great Good Place" ("It was something too mercenary, the domestic perfection of Brown") suggests that George Dane may only, after all, be a more talented Bertie Wooster. Being more talented, he is also more deserving; yet how lucky he is that the Age of Capital was also the age of cheap domestic service. This is a consideration which helps to place, though it does not diminish, the integrity of James's conception of culture.

There are, it is true, important undercurrents in James which do not respond to Professor Berland's soundings. He notes that Richardson offers an earlier example of an "intimate marriage of sensibility and morality" in the novel, yet, "Intense as the study of the inner life is in *Christina*, its curious emotional voyeurism has no counterpart in James". One sees what he means by this: after all, the combination of piety and pornography with which Richardson pursues his heroines is truly inimitable. There are other sorts of "intimate voyeurism", however. It is James, not any of his predecessors, who makes the issue of narrative, joint of view into something between a doctrine and a fetish. The supreme value, for him, is something that his characters "see" in others. Since what they see is often illusory, it is in the seeing, above all, that James's ideal of civilization resides. The concern with the "inner life" that results in his



Henry James in 1912, from the charcoal drawing by John Singer Sargent in the Royal Collection in Windsor Castle.

novels is, paradoxically, at once intense and evasive. His very ceremoniousness about the "note and trick" of the observing consciousness can be a way of denying us intimacy with the seer, as well as with the object of his vision.

James's observers practise their voyeurism with what amounts to a visionary intensity. The line of these observers - who include Rowland Mallet in *Roderick Hudson*, Dr Sloper in *Washington Square*, Ralph Touchett in *The Portrait of a Lady*, and Maisie in *What Maisie Knew* - culminates in Strether in *The Ambassadors*. Strether, that most distinguished of cultural tourists, finds in Mme de Vionnet and her tutelage of Chad Newsome the epitome of the civilized ideal for which he is seeking in Europe. His susceptibility to the image of the tarnished Parisian Great Lady is, of course, at once sublime and ridiculous. So much depends on Mme de Vionnet, in Berland's view, that she sums up the glory and impending ruin of the whole *belle époque*. Her defeat, he implies, anticipates the defeat of European imperialism in the Great War - that manifestation of the tragic vulnerability of the civilized ideal which, indeed, James was to live to see and lament. Strether, the arch-

typical hopeful traveller, stands for Berland as the embodiment of the "whole man", the "truly civilized human being".

Though he admonishes Little Bilham to "Live all you can", Strether eventually turns away from life, as do so many other Jamesian protagonists. Their identity is manifested not only in seeing but in Not-Doing. Berland gives much space to the crucial question of these renunciations. Many of them, as he points out, are all too predictable. In James's hands we can be sure that Daniel Deronda would have remained celibate, while Dorothea Brooke would have reluctantly sent Ladislaw packing. Nevertheless, Berland claims that the renunciations, at best, have a tragic rightness and necessity. Particularly he holds this to be true of *The Ambassadors* and (with some reservations) *The Portrait of a Lady*. In the former case it is fair enough to say that, having had his head turned by Mme de Vionnet, Strether cannot decently settle for his confidante, Maria Costrey. (Her name itself is sufficient indication of that.) What one must register, I think, is the effectiveness of an ideal of civilization which allows Strether to love Mme de Vionnet but never to venture to make love to her. James's heroes who go in for Great Ladies always end up by putting them on a pedestal.

In an interesting digression during his chapter on *The Ambassadors*, Berland speaks of the conventionalized nature of James's taste in the visual arts. Acute as he is about cultural acquisitiveness, James's taste was "not that of the expert, or even of the serious student of art, but more often that of the 'collector', ready to accept the currency of his time". This may be applied to Strether's admiration for Mme de Vionnet. I am not sure that Strether is convincing as a Whole Man, even as a Whole Victorian. Hellenism, though he is in his devotion, and Hebraism in his renunciations. Do we not glory in him as a free spirit given over to Jamesian idiosyncrasy, a connoisseur who is himself something of a collector's item?

Strether, like James's other protagonists, is an Olympian who finds his niche somewhere on the great mountain of liberal humanism. He is subject to the assaults of the Philistine, but, unlike Thomas Mann's Hans Castorp, he is a secular figure who has no acquaintance with the dark gods. There is not much villainy in James, though his range is wide enough for one to say that he did not totally ignore the demonic and Dionysian aspects of his society. In this connection, Berland offers a welcome rehabilitation of *The Princess Casamassima*, that unique novel from James's middle period in which he both takes cognizance of the London proletariat, and confronts his civilized ideal with the late

nineteenth-century ideology of revolutionary terror.

James's interest in conspiratorial politics is that it is not only a hobby of the rich. The life of culture, it is clear, is not enough for James's view that is their fault rather than the fault of the ideal. Where Mme de Vionnet takes up with her Casamassima, turns to a more incendiary form of excitement. Hyacinth Robinson, an exquisite young bookbinder fallen among revolutionaries, is the butterfly to her flame. Eventually he destroys himself rather than carry out the terrorist act with which he has been entrusted. His case (as we might expect) is a very special one, so the fullest sense. Professor Berland makes out a strong case for the imagination and intelligence that James brings to his theme, arguing, indeed, that *The Princess Casamassima* is more central in the Jamesian canon than its immediate predecessor *The Bostonians*.

Visiting Venice at the Princeton behest, Hyacinth states the conflicting claims of socialism and art somewhat crudely when he says that what his revolutionary friends really want is to cut the Venetian ceilings into strips and share them out among the populace. As a political observer, this is hardly more than a gibe, but its obtuseness says something about James's view of art. The artist's isolated individual expressing himself for the benefit of a few other individuals - the connoisseurs. This notion of the artist would seem to be behind the idiosyncrasy of James's idiom and use of language - a matter to which Berland pays very little attention. It may be that we are dealing with a very general case of late nineteenth-century cultural achievement, since James's style is trademark as peculiar and inimitable as the brushwork of Saurat or Van Gogh.

Culture and Conduct in the Novels of Henry James is an urbane and well-reasoned study in the liberal-humanist mould to which it attests James as a prime exemplar. It offers a rounded assessment of his achievement, not as a symbolist poet or semantic technician but as the author of a criticism of life. Perhaps, as I have implied, Professor Berland tones down his subject's extreme individualism, but - to use the appropriate Levinasian phrase - he has given his hostages. There is enough here to make every reader reflect on the civilized ideal, the Great Good Place, which is at the core of James's vision.

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Illusions

Women's Work and Wages in the Soviet Union
by Alastair McAuley
Allen & Unwin, £18.00
ISBN 0 04 339020 X

The Soviet Worker: Illusions and Realities
edited by Leonard Schapiro and Joseph Godson
Macmillan, £15.00
ISBN 0 333 28846 7

Workers and women are two groups in Soviet society whose real lives contrast sharply with the illusions which are fostered about them. With respect to the worker, these illusions have long been subject to critical study in the West; similar analysis in the position of Soviet women is more recent.

In the mid-1960s the American economist Norton Dodge concluded that Soviet women appeared mostly to have won the battle for equality, a view that has since been substantially revised. Indeed, as McAuley notes, the illusion of female equality has come under attack even in the USSR itself. By a careful and thorough use of Soviet data McAuley provides further evidence that female emancipation has not yet been achieved. First he establishes that the disparity in earnings between the sexes remains substantial, and explains this partly by the growing concentration of women in occupations which have an overwhelmingly female labour force, and partly by the under-representation of women in the more highly skilled and higher status posts. However, the data do suggest that the Soviet female white-collar worker suffers less from employment segregation than her manual sister and has, in McAuley's words, "made some inroads" farther up the hierarchy, at least to the level of enterprise director.

Considering the reasons for this segregation, McAuley tends to place the blame on education, which may seem surprising since Soviet men and women have virtually the same number of years of formal schooling. However, boys are more likely to receive vocational training enabling them to pursue careers in industry, while girls take courses which channel them into the lower paid service occupations. Further, women are less likely than men to undertake additional training after their full-time education, and their careers consequently suffer.

While McAuley's well-researched monograph is a useful addition to the writing on the Soviet woman, the Soviet worker is much less well served by the collection of essays edited by Schapiro and Godson. Despite the remark on the first page that it attempts to discover "to what extent the working class of the USSR has been a beneficiary of a revolution which was ostensibly carried out on its behalf", the chapters which follow mainly deal with the Soviet economy and society in general which is basically on life in the USSR through the eyes of a foreign journalist, another by an émigré on life from the inside. Both contain interesting anecdotes but little systematic analysis. Other chapters are more substantial and informative - for example, Dyker on industrial planning, Yanowitch on education, McAuley on welfare and social security - but again they tend to deal with Soviet society as a whole, with only a passing nod in the direction of the worker.

Nowhere in this volume is there any attempt to discuss the nature of the Soviet worker or to establish whether or not the USSR has a working class. It may justifiably be said that these are difficult questions, but any volume appearing under this title should at least attempt to approach them.

Robert Lewis

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BOOKS

Surveillance and the anthropologist

Black Villagers in an Industrial Society: anthropological perspectives on labour migration in South Africa
edited by Philip Mayer
Oxford University Press, £13.95
ISBN 0 19 570191 7

What Philip Mayer and his co-authors term "oscillating migration" is central to the South African political and economic structure. It is the system whereby the mass of black workers are denied rights of permanent settlement in the so-called "white" areas of the Republic, but where they are employed on comparatively short-term contracts, at the end of which they are compelled to return to the so-called "black" areas. This arrangement provides a dual benefit for the dominant community: by providing part of the workers' subsistence from the agricultural production of the black areas it enables employers to pay wages below subsistence level; and, by the creation of so-called independent states in these areas, it provides an excuse for excluding blacks from political rights or access to resources in the white areas.

There are a number of studies of such migration, including Francis Wilson's distinguished work on the role of migrant labour in the mining

industry. The present collection is the outcome of a migrant labour project at Rhodes University in Grahamstown. Its focus is on the places from which the migrants come, and on the impact of migration on the rural economy and on rural attitudes. The papers relate mainly to Lesotho, Ciskei and Transkei, although one paper looks at social relations inside a workers' barracks (described as a "hostel") on a gold mine in the Eastern Transvaal.

The papers present what are described as "anthropological perspectives". It has been suggested, unkindly enough, that anthropology is the activity of middle-class whites prying into the affairs of poor blacks; and some of these papers lay themselves open to such a charge. For example, the investigators followed workers around the mine barracks with the aid of tracking cameras. This intrusion on privacy, however, may seem merely a marginal addition to the total assault on human dignity involved in the miners' lives. It is described thus:

The hostel is designed partly to facilitate the control and termination of labour disturbances. The six rows of single-storey rooms built in a fan-shaped pattern radiating outwards from the administrative offices situated at their base, so as to ensure good visibility

into the hostel down these "corridors". Shades of Bentham's Panopticon! The anthropologist who forms part of this system of total observation and control is implicitly its accomplice. If the writer's conclusions were likely to improve the welfare of those being studied, we might be inclined to sympathize with his methods. But his conclusions are mainly banal - people from the same village or district tend to keep together or drink together. It does not require tracking cameras to show this.

What the papers show clearly is how far the so-called rural economy has become an appendage to the industrial capitalist economy of the Republic as a whole. They also raise the question whether the present system is viable even on its own terms. One common feature of the rural areas studied is the general decline of agriculture - its diminishing ability to feed the people dependent on it. The decline in total farm output appears to have been partly attributable to the drain of the industrial economy on active manpower, but also to the lack of those resources (subsidies, technical inputs, investment) which are available to white farmers in the region. The still more rapid decline in output per head is an outcome of the enforced movement of more people into the

"black" areas, which has increased the numbers trying to make some kind of living from the land. Some of the evidence from the paper on Lesotho, for example, suggests that agriculture, far from supplementing incomes earned in the mines and elsewhere, may be a drain on resources. It may cost the migrant more to produce a crop than the crop is worth. The migratory labour system thus undermines its own base - rural production.

How far can this process continue, and what is likely to be its outcome? The rural periphery described in these papers could sink into a permanent and ever-deteriorating slump. As relative dependence on migratory labour increases, and the contribution of the rural economy diminishes, so will the ability of the modern sector to pay less than subsistence wages decline. "Oscillating migration" will therefore become less advantageous to white-owned industry, mining and agriculture. The conjuncture of political and economic interests in maintaining the system could thus fall apart. But it would be foolhardy to try to predict the outcome.

Percy Selwyn

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Iran's pseudo-modernism

The Political Economy of Modern Iran: despotism and pseudo-modernism, 1926-1979
by Homa Katouzian
Macmillan, £20.00
ISBN 0 333 2696 6

Amid the spate of books on modern Iran which are now filling the publishers' lists, Homa Katouzian's study stands out as a serious and at times original contribution. He draws on a number of Persian sources which British and American authors have tended to ignore and, with his background as an economist, treats the modern history of his country in a refreshingly broad perspective.

In effect, he tackles his subject on two levels. As a historical narrative, his book takes us back to the nineteenth century, with a description of the decline of the traditional economy, culminating in a phase of extensive economic intervention by the imperialist powers after 1870. This decline helped to trigger off the constitutional revolution of 1906, which Katouzian differentiates from its predecessors in France and elsewhere. As he writes: "the revolutionaries did not demand equality before the law for there existed no law (in the European sense of the term) before which men could be equal... By fighting against despotism, the revolutionaries fought for law itself".

Unhappily for Iran, her first modern revolution failed to produce an effective and permanent alternative to the traditional royal despotism. The reign of Reza Shah, between 1926 and 1941, saw "the triumph of pseudo-modernist absolutism" as the Shah's rule displayed an increasingly manic and capricious trend. The allied invasion of 1941 removed Reza Shah, but left postwar Iran open to a struggle for power between his son, Muhammad Reza Shah, and his domestic opponents. Katouzian gives us a good deal of interesting detail on the multifarious opposition movements of the postwar years. For students of modern Iranian history, this will probably be the most valuable section of his book. He speaks of Musaddiq in generally approving terms, but believes that he could and should have settled the oil dispute with Britain during his 28 months' premiership.

William Hale

Dr Hale is lecturer in politics of the Middle East at the University of Durham.

An inferior statesman

Makarios: a biography
by Stanley Mayes
Macmillan, £15.00
ISBN 0 333 28127 6

Stanley Mayes's book might well have been called "Makarios and the Cyprus problem" since the man and his politics in context became so closely related that to think of one is instantly to think of the other. In the preface he states: "Makarios was partly the prisoner of the role he inherited, partly the victim of outside forces which he did not appreciate until it was too late to resist them successfully. His career seems to me to have been a tragic failure."

First, his background: the narrowness of an Orthodox ecclesiastical education hardly prepared him adequately for national leadership (still less, Mayes might have noted, for understanding Turkish Cypriots or the Cold War). Secondly, Makarios's advancement was dangerously fast, even by the Cypriot standards of decolonization: at 35 he was still a theology student hoping to become a lecturer; by 37 he was archbishop.

As to his character Mayes believes that Makarios had two ways of making decisions, each unsatisfactory. Sometimes he acted precipitously and unwisely, as in 1956 when he rejected the Radcliffe proposals, in 1963 when he presented the Turks with "13 Points" for constitutional change, or in 1974 when he sent the Athens dictator an open letter of ultimatum. At other times he vacillated - over the Zürich Agreements of 1959, over negotiations with the Turkish Cypriots (1968-1973) and in the same period over the renunciation of *Enosis*, and the curbing of Grivas.

To take one instance, Mayes argues that Makarios was irresolute when shown a draft of the Greek-Turkish Zürich Agreement, which was to lead to the creation of a Cypriot republic. Worried by Turkey's right of intervention, he insisted that he would need to consult his community. This he did at the London Conference on which the Mayes comments, "There can be little doubt that Makarios always intended to sign." It is unclear why he was guilty of "irresolution" over the Zürich text, but not over his London manoeuvres. Is it that serious chaps always give a firm yes or no, without second thoughts, when shown draft treaties? But it is easier to argue with Mayes about a specific incident than to reject the overall judgment.

Peter Loizos

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Realism and the taming of monsters

The Realistic Imagination: English fiction from Frankenstein to Lady Chatterley
by George Levine
University of Chicago Press, £15.00
ISBN 0 226 47550 6

The paradox implied in Levine's title, *The Realistic Imagination*, indicates the central argument of his book: that a tension exists between the novelists' rendering of the realistic, quotidian surface of life and their awareness of disruptive forces that lie beneath. Using *Frankenstein* as a recurring point of reference, making it a paradigm of the relationship between creator and monstrous creature, he explores some of the fiction of Jane Austen, Scott, Thackeray, Trollope, George Eliot, Hardy, Conrad and Lawrence.

Levine is erudite, searching and provocative. He is acutely and relevantly aware of ideological contexts, as provided by the ideas of

Carlyle and Ruskin or of scientific thinkers like G. H. Lewes, T. H. Huxley and W. K. Clifford. He also adduces present-day criticism and commentary, but sometimes incongruously, as when he thinks that Jane Austen would be unlikely to quarrel with an argument of Frank Leavis expressed in a 1965 essay. His continual use of abstractions and generalizations occasionally obscures or overstates his arguments. Referring to the tensions between realism and romance revealed in the episode when Heathcliff sells his wife at the beginning of the *Mayor of Casterbridge*, he typically says that "the whole sequence confronts directly ways to cope with the limiting pressures of the realist's contingent world on large human energies and aspirations".

By choosing the *Frankenstein* analogy, however, carefully he adjusts it to suit particular cases. Levine gives the impression of sometimes ex-

aggerating the "irrational and rebellious". It is difficult, to say the least, to discern disturbances of that kind in Jane Austen; despite his opinions that the picaresque element in *Northanger Abbey* is not dismissive and that the narrative simultaneously contains conventions and desires that transcend conventions. Similarly, the conflicts between the social code and personal morality that Trollope dramatizes are simply realistic by the standards of common sense, as the novelist himself would have maintained. Levine observes, in fact, that Trollope's "traditions of civilization are normally sufficient" to give us his novels.

But Levine's thesis concerning the novelists' attempts to build controlled kinds of values for the twentieth-century reader. First, it reveals a chronological development of what he terms "disrupting multiplication and fragmentation" related to the

increasingly disordered patterns in culture and society. In two interesting chapters, Levine convincingly sees Scott as establishing a precedent for later realistic novelists in his depiction of ambivalence embodied in Waverley, in the way he exercises idealism by means of distancing in history and in his complex view of relationships between person and society. Nineteenth-century novelists, his general argument runs, managed by the various ways he analyses to tame the monster, but by the beginning of the twentieth century Conrad's work acknowledges its "overt, disruptive and unmanageable presence" and Lawrence "rejects the realists to embrace the monster they feared."

A second, more important result of Levine's thesis is the insights he gives into the content and form of nineteenth-century realistic fiction. The Victorian novelists, for example, were by no means the solid realists that their self-confidence and explicit

avowals seemed to indicate. Thackeray, for one, was considered by admiring contemporaries like Daniel Masson to be "essentially an artist of the real school" whereas Dickens worked "more in the ideal". Yet Levine, following a number of recent critics, shows how Thackeray's cynicism, his ambivalence, scepticism and diffuseness. He takes James to task for his well-known criticism of nineteenth-century novels. For one thing, a novelist's desire to be truthful can involve admitting arbitrary and unlikely elements into his narrative. As Levine's disapproval of Trollope's reading a novel, he combats this by noting that no readers were so naive as to be disturbed by such obvious remarks.

Donald Hawes

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BOOKS

Prenatal moral status

Abortion and Moral Theory
by L. W. Sumner
Princeton University Press, £9.30 and
\$22.75
ISBN 0 691 07262 0 and 02017 5

The author of *Abortion and Moral Theory* has two aims. The first, which he regards as his practical aim, is to make a contribution to the debate on abortion, and in particular to provide an identifiable criterion for the moral status of the foetus. The second aim, which is theoretical, is to provide a philosophical foundation for the practical conclusions, and in particular to argue that that foundation can be located in a version of classical utilitarianism. The author, who is a professor of philosophy at Toronto, devotes about two-thirds of his discussion to the practical issues and one third to the theoretical.

In his treatment of the practical issue Professor Sumner distinguishes two positions, which he calls "liberal" and "conservative". The central distinction in any sort of liberal theory is that between private acts, which do not affect the interests of other persons, and public acts, which do. The liberal defines moral issues in such a way that they can arise only over the latter. Applying this to the morality of abortion we can see that if the liberal is to hold a permissive view of abortion (for I do not see that he is logically bound to do so) he must deny moral standing to the foetus from conception to birth, and thus be enabled to categorize abortion as a private act. But as Professor Sumner points out, since viable

births are occurring earlier as medical care develops, the pro-abortion liberal can be made to seem arbitrary unless he also supports infanticide, which is contrary to most people's moral intuitions. The pro-abortion liberal position is espoused these days by a variety of feminist movements with slogans like "a woman's right to choose" and Professor Sumner provides a critical analysis of these positions and the theories of rights involved in them. The conservative view has its roots in natural law theory. According to the theory of natural law there is a negative duty to refrain from homicide and a positive duty to promote human welfare where possible. This can be turned into a restrictive theory of abortion if (but only if) it is postulated that the foetus has moral standing from birth right back to conception. Professor Sumner exploits the difficulties in this position, such as the one which arises for a conservative who wishes to support contraception while opposing abortion.

It appears from the analysis that the real battle on abortion is not over the merits of liberalism or conservatism as such, but rather over the question "What is it to have moral standing?" After investigating various positions on this question Professor Sumner adopts the moderate view that moral standing is acquired at the threshold of sentience, and since he thinks that it can be scientifically established at what point in the development of the foetus sentience emerges we are offered the foundation of a moderate abortion policy - before the sentience-threshold abortion is a private act, but after it abortion raises important moral issues which any legislation ought to take account of. Professor Sumner admits that the moderate view represents the practice of many western states, but points out that he is advocating the moderate view not as a political compromise but as the only coherent moral view. The discussion of the policy on a theory of rights and duties which does justice to both female autonomy and the moral status of the foetus.

The moderate view of abortion is said to need a "deep structure" one reads on with excitement to find out what this is going to be. Alas, discoveries are often disappointments - Santa Claus was Uncle Jim, and the "deep structure" is only utilitarianism. We are told that on a utilitarian theory rights can be taken seriously without being treated as morally basic. Well, yes, but that presumably means that they can be treated seriously only in the conflict with utility, which is as satisfactory to a rights theorist as it is to a utilitarian. It is to me that the substantive discussion of abortion excels in its care, accuracy and humanity whereas the "deep structure" is flawed by some of the banalities of contemporary "radical" philosophy.

R. S. Dowds

R. S. Dowds is professor of moral philosophy at the University of Glasgow.



When H. St John Philby, the Arabian traveller, scholar and writer, died in 1960, he left a manuscript which charted his discoveries about the story of Solomon and Sheba in the cultures of the Near and Middle East. Illustrated with many pictorial representations of the Queen, including Edmund Dulac's reproduced above, *The Queen of Sheba* is published by Quartet Books at £12.50.

Clarity and style

Aristotle's Ethical Theory, second edition
by W. F. R. Hardie
Clarendon Press: Oxford University Press, £17.50 and \$3.50
ISBN 0 19 824632 3 and 824633 1

When it was first published in 1968 Mr. Hardie's book on Aristotle's ethical theory was something of a landmark.

The *Nicomachean Ethics* had been studied intensively - not least in this country - for very many years; excellent commentaries and articles on particular topics, yet there was no one book that contained a sustained critical discussion of the whole treatise. Moreover, nearly all the best published work had been done by classical scholars, and for classical scholars the Greekless philosopher had little access to the sort of rigorous and probing examination of the text that characterized (and characterizes) the best Aristotelian exegesis. Hardie's book was therefore doubly important. It dealt with the whole of the *Ethics*, and by eschewing the use of untranslated Greek it enabled the Greekless reader to get at least as close to the text and its problems as could a classical scholar. The distillation of many years of studying and lecturing on the *Ethics*, it was immediately recognized as an outstanding piece of philosophical scholarship, lucid, judicious, and acute.

Between 1968 and 1980 there were vigorous debates - some sparked off by Hardie's book - on many topics in Aristotle's ethics, topics which were often intimately related to contemporary Anglo-American interests in moral philosophy and in the philosophy of mind and of action. Partly under the benign influence of transatlantic workers more and more publications by Aristotelian specialists took account of the needs of the Greekless philosopher, and so the interaction between "ancient philosophers" and contemporaries became livelier.

Many of the important issues raised by books and articles on the

Ethics in these last years are now taken up by Hardie in the appended notes which, collected together at the end, add more than a quarter to the length of the original book. The notes also contain responses to some reviews of the first edition. Hardie often elucidates, expands, or defends what he had written; sometimes, and with equal grace, he admits the force of criticisms made. In all the notes his discussion of the views of others is calm and courteous, but sharp and precise. (The vigorous clash of contemporary debate adds a certain excitement and tang.) References to the material in the notes have been incorporated into the general index; there is now also an index of Aristotelian passages; and there is an extended and reorganized bibliography. So this is no mere reprint with a few revisions, but a substantially expanded and improved new edition. Among the subjects prominent in recent literature on Aristotle's ethics - and therefore in Hardie's appended notes - are the following: the nature of human happiness (or "the good for man"); the structure of deliberation and practical thinking; the analysis of *akrasia* (acting against one's better judgment); and the role of the practical syllogism in the explanation of action. Among the recent books Hardie now discusses are: S. R. L. Clark's *Aristotle's Man*; J. M. Cooper's *Reason and Human Good*; J. R. G. Kenny's *Aristotle's Ethics*; A. J. P. Kenny's *The Aristotelian Ethics*; and M. C. Nussbaum's edition of Aristotle's *De Motu Animalium*. On every question he investigates, and on every passage he examines, Hardie has something interesting to say, and he says it with clarity and style.

This book is not for the casual general reader. But anyone who wants really to get to grips with Aristotle's ethical theory will find it as indispensable as a Michelin guide in France.

J. L. Ackrill

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Hegelianism: the path toward dialectical humanism, 1805-1841
by John Edward Toews
Cambridge University Press, £25.00
ISBN 0 521 23048 9

Hegelianism is a rich, complex and ambitious book which can be considered from several viewpoints.

It is a contribution to the understanding of the thought of G. W. F. Hegel whose stature, in the English-speaking world, seems to be growing steadily and is likely to be further enhanced by this book. It is a study of Hegelianism as a philosophical-political school or sect (analogous to the philosophical radicals in Britain or the Saint-Simonians in France), which is original in its emphasis on the rise and evolution of the school during Hegel's life. It is an analysis of the beginning of the transformation of the Hegelian system during the first decade after his death (1831-1841) into a non-metaphysical, humanist philosophy with a radical edge (the author promises a sequel covering the subsequent history of Hegelianism and the emergence of Marxism). It is an intellectual history of Germany, which sets Hegelianism in the context of the tremendous ferment of religious, philosophical and political ideas which marked that country in the first half of the nineteenth century. It is also a study in the sociology of ideas (or "ideological" analysis), relating dialectical thought-patterns to the lives, backgrounds and wider social context of a large group of intellectuals. Finally, the author hopes that his book will throw light on the problem of how intellectuals committed to periods of cultural and general disintegration. A subject of general and topical interest.

The approach is essentially historical and chronological. In part one, the author traces the intellectual development of Hegel and the formation of his system as a form of "cultural ideology" which Hegel offered to his disciples and ultimately to the whole cultured and

ruling elite of Germany (especially Prussia) as a substitute for traditional Christianity and as an alternative to enlightenment, rationalism and post-revolutionary romanticism. Politically his "cultural ideology" offered a middle way between the democratic utopianism and nationalism of the German student movement and the reactionary politics of the traditional ruling classes and some of their ecclesiastical supporters. The enthusiasm with which Hegelianism was received by a whole generation of academics, writers, clerics and officials, was due to the meaningful perspective which it provided for these men, and which integrated them, after various forms of alienation, into the cure and society of their time. But as the author shows in part two the differences in background and experience, as well as the inherent tensions within the highly complex synthesis Hegelianism represented, produced significant diversity inside the Hegelian school, even before the death of the master, within the twin spheres of politics and religion on which the school had the greatest impact.

Part three concentrates on the three thinkers - David Strauss, Bruno Bauer and Ludwig Feuerbach - whose writings created the humanistic, Left Hegelian tendency, distinct from both the orthodox Old Hegelians and the broad central grouping of critical, reformist Hegelians (generally ignored before Toews's book). The Left Hegelians, as the author points out in the epilogue, proved an unstable position and a short-lived tendency, but it had a lasting and significant product, which was of course the "cultural ideology" elaborated by the young Marx.

Hegelianism is an impressive scholarly achievement which succeeds at most of the levels which it tackles. The existence of a general problem of cultural disintegration and ideological therapy has to be demonstrated by further study, but Toews's analysis seems valid for the period under discussion. Wisely the author claims no

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Hegel's cultural ideology

BOOKS

The politics of conservation

International Organizations and the Conservation of Nature
by Robert Boardman
Macmillan, £15.00
ISBN 0 333 26265 4

The Primordial Bond: exploring connections between man and nature through the humanities and sciences
by Stephen H. Schneider and Lynn Morton
Plenum Press, \$15.95
ISBN 0 306 40519 9

"The process of conserving nature", writes Robert Boardman, "involves inherently political questions." Anyone who has followed recent debates in Parliament on the Wildlife and Countryside Bill will say "Amen" to that. The politics of conservation is the prime theme of Boardman's clear, incisive and scholarly book.

The non-governmental organizations devoted to conservation parade under a daunting column of acronyms and Boardman has examined the influence of these upon the policies of governments. One of the many good points that he makes is that the very plurality of these bodies, the fact that they are not fused into one gigantic conglomerate, is a source of strength for conservationists. One group of zealots may make a breakthrough on whales, another on elephants, another on wetlands, another on whaling; each using different kinds of political pressure. Amalgamation among the diverse bodies would be likely to weaken the force and focus of their propaganda for the protection of nature.

"History", writes Boardman, "is easy to forget." His first two chapters are a welcome summary of the history of the conservation movement: a timely reminder to the young (some of whom believe that no one cared much for the environ-

ment until the 1970s), and a warning that, because conservation is a political process - some authority has to make rules to protect plants, animals, and landscapes from exploitation - the philosophical assumptions made about conservation are important. Endangered species, for instance, they certainly include some whales, on whose behalf a kind of mammalian Amnesty International is necessary. But are they also to include some rare species of bed bug or bird flea? If so, who comes to their defence? If not, where is the line to be drawn? On the principle that lame ducks in industry should be left to sink without trace, some endangered species might regard more sympathy. Are they not the lame ducks of evolution? To issues like these, Boardman brings a refreshing dose of sanity.

Over 70 years ago the Swiss set up a League, and the Swedes a Society, for the Protection of Nature. Britain had societies for the protection of birds at the turn of the century. The necessity for these activities to be planned on an international scale was, of course, uppermost in the concern of ornithologists; and, on the initiative of a Swiss, Paul Sarasin, there was in 1914 a meeting in Bern where a Consultative Commission for the International Protection of Nature was signed by delegates from 17 European countries. The rest of the story, brought up to the date of the creation of the United Nations Environment Programme (UNEP) in 1973, is the foundation on which Boardman builds the structure of his book.

First, he describes how the various non-governmental organizations found themselves vulnerable to criticism from governments because they didn't have data to support their case. Man has hunted, slashed, burned, cut down forests, and ex-

ploited nature for millions of years. If he refrained from doing these things, he would vanish from the Earth. At what point, then, should exploitation be curbed? What animals are in danger of extinction? What habitats need to be preserved for the sake of their animal and plant inhabitants? To answer these questions, the non-governmental organizations needed to sponsor research and for this they needed cash.

In the 1960s the first version of *Red Data Book*, a Who's Who of the rare animals, appeared, and it has been regularly updated ever since. This has not been a simple matter of cataloguing rare animals; it was soon realized that the prime need was to preserve ecosystems rather than individual species. Politicians who were willing to consent to laws protecting (say) seals, eagles, and bats, found it more difficult to consent to laws which would prevent the owner of land from exploiting it, on the ground that it was a site of special scientific interest. It soon became obvious to conservationists that the innocent science of ecology (the century ago had lost its innocence, and was now directed to bring about political and legal change).

Boardman's chapter on the political activities of the non-governmental organizations is the core of his book, so well and closely argued that it would be a disservice to him to summarize the argument in a review. It is an impressive case-study of the way in which voluntary associations, provided they are persistent and do not disregard the inevitable constraints under which governments work, can influence not just single nations but whole continents. The degree of persistence demanded is formidable. It is difficult enough to get agreement among delegates to initial a draft treaty to conserve wildlife; it is even more

difficult to get their governments to ratify the agreements. The International Union for Conservation of Nature and Natural Resources (IUCN) has been the most influential pressure-group in recent years, although, as Boardman suggests, "To each species its pressure group" has been the best operating slogan.

Some political scientists are tempted to put their arguments into broad generalizations - a pretty mosaic of abstract nouns - and to leave it to the reader to translate these into concrete examples. Not so Boardman: he gives the reader three illuminating case-studies: on Polar conservation, East African wildlife, and the protection of migratory birds. His conclusions are crisp, convincing, and pragmatic. Anyone who concerns himself with conservation and aside sentimentalism, the temptation to be anthropocentric, and the illusion that the requisite qualification is about decisions, legislation, compliance, policing, and reconciliation between two conflicting "goods": the "good" derived from the sensible exploitation of nature by farmers, hunters, and industrialists; and the "good" inherent in the preservation of the ecosystem within which we as inevitably embedded are as other living things.

After reading and admiring Boardman's book, what can a reviewer say about *The Primordial Bond*, which deals with the theme that man is part of nature as though this is a point which still needs to be made? The kindest thing that can be said is that the authors write with the earnestness of persons from whom the Veil of Ignorance has suddenly been lifted. To their naïveté - and in a way lovable - astonishment, there really are points of contact between the hypotheses of science such as the carbon cycle, the nature-poetry of

Wordsworth, and Titian's paintings. Their aim (in the sub-title of their book) is to explore connections between man and nature (they make heavy weather about the definition of nature), through the humanities and the sciences.

Well, they don't explore; they assemble a glittering assortment of quotations, photographs, and tit bits of Ordinary Level biology: the kit, so to speak, you would collect if you were contemplating this sort of exploration. I would guess from the slender, not to say enervated, bibliography of the book - it omits even basic reading, such as Passmore's *Man's Responsibility for Nature* - that they wrote their book without realizing how much profound thought has already been devoted to this theme. I sympathize. It is not easy to say anything fresh if you follow in the steps of Whitehead, Passmore, Fraser Darling, Bronowski, Leo Marx, Caldwell - to mention only a few of the recent writers on this and similar themes.

But it's a serious matter to publish a book, and the first question you need to answer is: "Who is the book for?" The science in the book is at a level for high-school children. The literature would be familiar to anyone who has read freshman English literature. To integrate the two in a fresh way would be supremely difficult. The authors cannot be blamed for not succeeding; but the publisher ought to have persuaded them to do a lot more homework before trying.

Eric Ashby

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Pascal as a first language

Pascal Programming
by Laurence Atkinson
Viley, £16.50 and \$5.95
ISBN 0 471 277 73 8 and 277 74 6

Programming via Pascal
by J. S. Rohl and H. J. Barrett
Cambridge University Press, £12.50 and \$5.95
ISBN 0 521 22628 7 and 22628 1

There are already an almost overwhelming number of books which deal with the programming language Pascal. That we might cope with the flood of books on the subject, they must inevitably be categorized. These two recent arrivals fall into the largest category, as they attempt to teach Pascal as a first programming language. Because the order in which the main features of the language are introduced can be very important, as it affects the examples used in the book and the organization of courses based on the books, individual lecturers must compare contents for themselves.

Atkinson's introductory book is divided into four parts: fundamental concepts, scalar types, data structures, and the goto statement. The first two parts are sound; the coverage of loops (43 pages, including many examples) and of recursion (20 pages) is very good. The discussion of recursion centres on an introduction to backtracking, which is used to find a solution to the problems facing a man trying to pass a river with a cabbage, a goat, and a wolf. Atkinson has a special affection for Zahn Loops and their encoding in Pascal using high level languages such as Algol and Fortran. The description of input/output is thorough and accurate.

"Visible spaces" are used in the examples to avoid typesetting problems and simplify counting. The explanations of the Algol-like features, such as recursion and scope, reflect the authors' experience with the language. In contrast to Atkinson's book, the example

programs seem to lack a certain Pascal flavour, probably because of the authors' attitude to enumerated types and subranges. In a few places, certain details are erroneous. This is undoubtedly caused by the age of the book's contents (the preface is dated 1978) and by the fact that the authors, who are Australian, will have had some difficulty keeping up with the development of the Pascal standard. As with Atkinson's book, these errors should not cause students any problems.

The authors' approach to programming is unusual in a Pascal text of this size. There are 10 pages on program design using flowcharts, 11 pages on program flowcharts and over 20 pages on efficiency. There is some evidence in other Pascal texts to support this view, since the authors have obviously produced the examples carefully. Mixed upper and lower case letters are used effectively but sparingly in identifiers. And typesetting has also affected the examples of formatted output, which are usually inconsistent with the author's programs.

There are a number of examples of incremental testing and development and several case-studies. Some of the case-studies are very ambitious, with the result that only a partial solution is given. Overall, this is a good book and should take a large share of the student market. Course lecturers should find it holds their interest far more than one would expect in an introductory text.

The emphasis in Rohl and Barrett's book is placed on those features which have in the past troubled trainee programmers using high level languages such as Algol and Fortran. The description of input/output is thorough and accurate. "Visible spaces" are used in the examples to avoid typesetting problems and simplify counting. The explanations of the Algol-like features, such as recursion and scope, reflect the authors' experience with the language. In contrast to Atkinson's book, the example

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A. M. Addyman

A. M. Addyman is lecturer in computer science at the University of Manchester and co-author (with I. R. Wilson) of *A Practical Introduction to Pascal* (Macmillan, 1978).

A Catalogue of the Pybus Collection of Medical Books: Letters and Engravings, 15th-20th Centuries held in the University Library of Newcastle upon Tyne, has been compiled by Joan S. Emerson and published on behalf of the Library by Manchester University Press at £35.

Intimate ecology

The Ecology of Marine Sediments: an Introduction to the structure and function of benthic communities
by John S. Gray
Cambridge University Press, £15.00 and \$6.95
ISBN 0 521 23553 7 and 28027 3

Ecology is a science that until 50 years ago was largely dominated by the views and aspirations of nineteenth-century naturalists. The books produced by these scientists could be read by any intelligent person, and had a wide appeal among the educated. Francis Buckland's *Curiosities of Natural History* (1893) and Charles Elton's *Animal Ecology* (1927) were popular books understood by all who read them.

Times have changed. Ecological books are now either popular or erudite, and authors do not attempt to serve the two publics. There is, however, still a place for the personal view which, although it may not represent a balanced appraisal, is nevertheless stimulating. John Gray writes in this way. His book is about the ecology of marine sediments and not about marine ecology; even then he is selective. To quote: "the book seeks to analyse the patterns found in benthic communities and relates these patterns to current ecological theory." Also, the patterns are complex and the theory more so: the book demands, for example, a knowledge of carbon budgets (page 158), Fourier analysis and computer simulation (pages 75, 169), and an above-average grasp of basic ecological principles.

The book is, however, a delightful chance to favour the way in which an expert sees his and others' research. Gray frequently emphasizes his own points of view, and a few may find this style irritating; I did not, and have had difficulty in putting the book aside. Modern ideas in ecology are at last beginning to stabilize after a period of alarmingly unpredictable fluctuation. The concept of niche discussed by Gray is central to many aspects of

modern ecological theory, and yet has proved difficult to define. It is basically the place in which an animal lives, and is controlled by behavioural preferences. Gray places it in the context of his own experiments and goes on to consider niche uniqueness, a concept that could be viewed as the ecological parallel to Medawar's "uniqueness of the individual".

Gray sees the sea shore, the estuary, and the sea bed as stable environments that change little; they can be revisited and recognized in a man's lifespan. However, although most environments are to some extent stable, some are more so than others. Ecological equilibrium, and the consequences of a lack of stability, have become of central importance to much recent ecological thought. Gray discusses the ecological stability of benthic populations in both the short and long term and comments on Sander's fascinating work on deep-sea fauna. As this is a field in which new ideas and material continue to be published in profusion, a definitive consensus is not possible.

John Gray's book provides us with one man's insight into one part of marine ecology, but it is for those who have enough specialist knowledge to appreciate its nuances.

P. S. Meadows

P. S. Meadows is senior lecturer in zoology at the University of Glasgow.

For the first time since its publication in 1871, Princeton University Press are to publish a paperback reproduction of the first printing of the first edition of Charles Darwin's *The Descent of Man, and Selection in Relation to Sex*. John Tyler Bonner and Robert M. May provide a substantive introduction, discussing the reception of the sequel to *On the Origin of the Species* (1859), the scope and limitations of his scientific method, and the relevance of the work to present trends in evolutionary theory and sociobiology. The edition is available at \$10.95.

BOOKS

After the revolution

The Ferment of Knowledge: studies in the historiography of eighteenth-century science
edited by G. S. Rousseau and Roy Porter
Cambridge University Press, £25.00
ISBN 0 521 22599 X

The eighteenth century has until recently been a Cinderella period in the history of science. It lacked the heroic figures and colossal themes of the so-called Scientific Revolution of the seventeenth century, which had been the main stamping ground of the first generation of specialist historians of science. It also lacked the relative modernity of content to be found in the rapidly differentiating scientific disciplines of the nineteenth century, which in recent years have provided the staple diet of many younger historians of science.

Sandwiched between these two powerful, though hardly ugly sisters, eighteenth-century science seemed to have been characterized by stultification, stagnation and boring theoretical speculation, or conversely by fanciful speculations floating free from observation and experiment. That such disparate interpretations could be put forward at all shows how far the eighteenth century had been neglected by historians of science.

The editors point out in their introduction that eighteenth-century studies have so far been little affected by the dramatic changes seen in the historiography of science in the past thirty years, and they evidently intended their compilation to correct this anomaly. Their success in this aim has been considerable, though uneven. Several essays provide, at the very least, valuable summaries and evaluations of recent specialist studies. Others go much further towards major re-interpretations of particular fields of science, and two or three outline approaches that could have important implications for the understanding of science in any period.

Perhaps the most important piece of revisionism that is implicit in all these essays, and explicit in several, is that in studying the science of any earlier period and certainly one as far from our own as the eighteenth century, serious attention must be given to that period's own mapping of the field of knowledge. The con-

tents and boundaries of modern scientific disciplines, if extended backwards, become highly misleading in earlier periods. This distorting effect is more subtle, and more difficult to eliminate, than the well-known problems raised by brash "Whiggish" identifications of correct and erroneous elements in the science of the past. To take seriously the unmodern character of the "geography of natural knowledge" in an earlier period is to alter one's whole perspective on the cognitive features of every field within that landscape.

Thus Jacques Roger discusses the eighteenth-century study of the living world not as "biology" - the word had not yet been coined - but as aspects of medical science and natural history; and Maurice Crosland, in a review of the "chemical revolution", reminds us that much of chemistry also belonged in natural history, and that Lavoisier's work was innovative precisely because he was a physician more than a chemist. Roy Porter deals with the "terraceneous globe", a very different field of knowledge from even the sum total of the nineteenth-century disciplines - geology, oceanography, biogeography, and so on - that replaced it. J. L. Heilbrunn plots in social as well as cognitive terms the changing boundaries of the experimental "natural philosophy" that later transmuted into parts of physics; and H. J. M. Bos emphasizes how mathematics, in its "mixed" branch, included not only mathematical sciences such as optics and mechanics but also such quantifiable "arts" as navigation and the design of ships.

Other essays provide valuable surveys of further areas of natural knowledge in the eighteenth century. W. F. Dymond covers an admirably wide range of medical topics, which are complemented by G. S. Rousseau's long essay on "psychology" (which might better have been termed the sciences of man). Eric Forbes's essay uses another important category, namely "cosmography", but is disappointing in its narrow focus on Tobias Mayer and his immediate associates. D. S. C. Cardwell's survey of technology at the dawn of the Industrial Revolution is a useful summary of an important topic, but is confined to British developments with the rather inadequate excuse that they are by common consent the most significant. In most of these essays, however, there is a

welcome transcendence of what Heilbrunn rightly terms "the narrowest tradition of Anglo-American scholarship", and a pan-European perspective is at least attempted if not always achieved.

The essays grouped loosely as "Philosophy and Ideas" are perhaps the most innovative in historiographical terms. Rom Harré attacks the "a-history" of those modern philosophers who, under the guise of discussing the great eighteenth-century figures, use their ideas for their own purposes in total detachment from the period; and he argues that much closer attention should be given to the contemporary scientific problems that occasioned much of their philosophizing.

Simon Schaffer rejects as spurious the "Newtonian" unity that some historians of ideas have claimed to find underlying the diversity of natural philosophies and matter-theories of the period; he criticizes their virtually non-social concepts of scientific "traditions" and "influences", and argues in a Bachelderian manner that eighteenth-century natural philosophy must be seen as a distinct discourse.

Steven Shapin similarly criticizes intellectualist analyses that stop short of examining the social and political uses to which ideas about the natural world were put; and in a brief interpretation of eighteenth-century physiological theorizing he makes a striking, if incomplete case for the pervasive constitutive effects of socio-political interests.

This last example does, however, raise a major problem that is implicit in several essays. The integration of the cognitive contents of eighteenth-century science with the social environments in which that claimed knowledge was produced, to form what Shapin terms a new contextualist historiography, has so far been achieved with greatest success or persuasiveness at the level of very general and abstract concepts such as matter, force and ether. How this new historical sociology of knowledge is to be applied at the more mundane level of everyday scientific practice - of observations and experiments - has yet to be explored.

Martin Rudwick

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Now fades the glimmering landscape

The Human Impact: man's role in environmental change
by Andrew Goudie
Blackwell, £15.00 and £6.50
ISBN 0 631 11121 2 and 12554 X

For most of us it has become a truism that we live in a man-made landscape, be it urban or rural. Increasingly, we are also aware that many of the less obviously modified landscapes we know have been formed - often inadvertently - by man, his animals and his fire. From the treeless uplands of Britain to the savanna, profound modifications of the landscape have been brought about by quite small numbers of humans without the aid of modern technology.

Elsewhere, the bulldozer, the airborne defoliants of the Vietnam war, and the huge dams of the modern engineer are more obvious impacts of man on the environment. Whether we should succumb to regard an unaltered natural world as unusual, or whether we should remind ourselves of the great areas of rather little altered environment depends on the scale on which we think, and how far we seek to emphasize the remarkable extent to which man has indeed modified the earth on which he lives.

In the mid-nineteenth century George Perkins Marsh wrote his classic *Man and Nature*, and Goudie, like others before him, has attempted a twentieth-century version. The

result is an attractive book - both visually and intellectually - for he has collected a wide range of examples and some at least will provide a new perspective for any reader. Comprising about 87 per cent of the book, these sections are grouped under six main headings, describing in turn man's impact on vegetation, animals, soil, water, landform and climate.

Each section is composed of a very large number of examples, usually organized into sub-sections, but nevertheless following on each other with impressive, yet bewildering, rapidity. This compartmentalization is at times awkward, hedges the landscape as it is considered in the animals section, not vegetation, desertification crops up under vegetation, but inevitably recurs in the sections on landforms and climatic change. In that sense the environment of the sub-title is rather neglected.

Goudie faces two problems in his approach that he does not fully resolve. The first is how to deal with those problematical areas where it may be an effect of man - and then it may not. Good examples here are the role of carbon dioxide in climatic change, the elm decline in Neolithic Britain and the problem of the Late Pleistocene extinctions. In some ways these are dealt with fairly, yet by including them in the book as a whole (unless they had been grouped in a separate chapter) some prior judgement has had to be made. On the other hand, in the case of Pleis-

tocene extinctions it is implied that as new evidence comes in it reinforces the case for attributing them to human overkill. What allows us to prejudice undiscovered evidence? It would be interesting to know how far Goudie originally hoped for synthesis, for a balanced review, for measurement of the impact of man on the world's environment. In the end there is all too little here, and that is not only a disappointment, but something of a failing. It is a disappointment in so far as I had hoped he would balance his fascinating collection of examples against my view that there are considerable areas of the world still relatively unscathed. It is also a failing since no one wishes to challenge his reiteration of Marsh's view that man is a significant agent of environmental change; it is good to see it illustrated so well, but it does not need proof.

Yet how ubiquitous is man's impact? Is there little of the world unaltered? Perhaps a chapter on "landscapes that survive" would have allowed him to set that evidence against the rest and so come to a general conclusion on the extent of man's impact. It would have provided a more substantial conclusion to a worthwhile, yet tantalizing, book.

Keith Clayton

Keith Clayton is professor of environmental sciences at the University of East Anglia.



Private soldiers and officers of the Third Regiment, a photograph taken by J. R. Krebs and N. B. Davies, reproduced from Lawrence James's *The Black Sea*, the war with Russia from contemporary photographs (Figs Kennedy, £15.00).

A wealth of behaviours

An Introduction to Behavioural Ecology
by J. R. Krebs and N. B. Davies
Blackwell Scientific, £18.00 and £7.50
ISBN 0 632 00666 8 and 00668 4

I teach behavioural ecology and in future I shall give fewer lectures. Until now there has not been a single text suitable for an introductory undergraduate course, and teachers have had to rely on a rather unsatisfactory multi-author volume together with original research papers. Now we are presented with a beautifully written comprehensive textbook that should be required reading for all students. It will only need to be supplemented by the occasional tutorial.

Krebs and Davies teach behavioural ecology at Oxford and Cambridge Universities. The publication of their book is a landmark in the development of this field for at least three reasons. First, it charts behavioural ecology as a coherent subject unfettered by its over-publicized synthesis, evolutionary theory, or evolutionary theory. The field is truly interdisciplinary. Third, the book lacks bias. It was almost inconceivable that two of the most active research workers in behavioural ecology could produce a book that did not give undue prominence to their own elegant work; but this they have managed. They would, however, have been forgiven if they had doubled the contribution that their own researches have made to this book.

Behavioural ecology, as envisaged here, is about the adaptive value of behaviour. Why do animals behave as they do? The answer is that patterns of behaviour which increase survival and reproductive success are incorporated into a species repertoire by natural selection or cultural transmission. To caricature the book: we assume that behaviours are adaptive and ask ourselves why. If we see starlings feeding in a flock, we want to know how the individual birds profit. We observe the conditions under which the birds flock and we might observe behavioural changes associated with different group sizes. We hypothesize reasons for flocking. We then design manipulative experiments to see if predicted changes with flocking patterns occur - for

instance, we might release a bird in flocks of different sizes and demonstrate that birds in larger flocks are more likely to escape from the hawk. And we might compare starlings with other bird species to see if there are expected environmental correlates of flocking. We use observations to suggest hypotheses, and then we perform experiments or conduct field studies to test those hypotheses. This is the scientific discipline that Krebs and Davies bathe in. A wealth of behaviours are considered: group living, mating patterns, parental care, fighting, altruism, communication, predation and many more.

The procedure that they have followed throughout the book is to describe current theories which attempt to explain variation in behaviour, and then to use selective biological examples to illustrate the relevance of the theories. The theories are lucidly described but, at the whole, they lack mathematical formalism. To many this will be a major attraction of the book, but others it will be an underlying weakness. The choice of examples is astonishingly good; they are clear, concise and economically presented.

I am uneasy, however, at the book but with behavioural ecology as a field. Across the landscape we recognize the importance of many selective processes moulding behaviour. This book traces those processes perfectly, but what is the relative importance of each? For example, we can see numerous advantages to animals at stages that accrue to group living. We even illustrate them experimentally. But for most animal groups we do not yet know which are the important processes.

This book records a definite step in the development of behavioural ecology. We have come a long way since Niko Tinbergen pointed the direction. The goal is elusive but in sight - we need a general synthesis of behavioural ecology. Krebs and Davies present the relevant theories and they illustrate them well, and so they are able to assess the relative importance of each. And for teachers they provide a textbook of superlatives are necessary to describe.

Paul Harvey

Paul Harvey is lecturer in biology at the University of Sussex.

NOTICE BOARD

Forthcoming Events

Form, order and spirituality in the Life of the Church, the latest British colloquium in ecclesiastical history to be organized by the Commission of the International Commission of the History of the Church, will be held at the University of Lancaster, from September 2-8. Details from Brenda Bolton, Department of History, Westfield College, Kidsgrove Avenue, London NW3 7ST.

Under Defence: Implications and Policy Options for the 1980s, a conference to be held at North East London Polytechnic, Dagenham Park, near Chelmsford, from September 4-6. It is the second in a series which has the long-term objective of providing a base for postgraduate courses in defence and related subjects. Speakers include Lord Chalfont, Professor Peter Nallor of the Royal Naval College, Monmouth, and Sir Bruce Kent, secretary of the Campaign for Nuclear Disarmament. Details from Colin Miller, assistant director, NELP, Romford Road, London E15 4LZ.

'Survival and Revival', the fifth international conference on higher education, organized by the Institute for Research and Development in Post Compulsory Education at the University of Lancaster, is to be held there from September 14. Speakers include: Dr Gerry Fowler, deputy

director of Preston Polytechnic, Dr John Horlock, vice-chancellor of the Open University, and Mr Philip Reynolds, vice-chancellor of the University of Lancaster. Fee: £130. Details from Dr Housell, director, Fifth International Conference on Higher Education, Lancaster University, Lancaster LA1 4YL.

A conference on the proceedings of The International Kankorom Project is to be held at the Open University, Milton Keynes, from September 11-13. The conference will discuss the project which endeavoured to bring together scientists of different nationalities to solve problems related to earth sciences using modern technology. Fee: £15. Details from Shane Wesley Smith.

'Work, Non-Work and Recurrent Education', the annual conference of the Association for Recurrent Education is to be held at College Hill, Malet Street, London from September 11-13. The conference will discuss the project which endeavoured to bring together scientists of different nationalities to solve problems related to earth sciences using modern technology. Fee: £15. Details from Shane Wesley Smith.

'Metallic and Other Poisons: Hidden Dangers', a seminar to be held at the North East London Polytechnic, Dagenham Park, near Chelmsford, from September 10. One hidden danger it will be discussing is a possible link between the incidence of falling throughout Britain and the amount of lead present in the urban atmosphere. Fee: £20. Details from Mrs T. Letchford, Special Course Unit, NELP.

Open University programmes August 22 to August 28

Saturday August 22

- 8.01 Mass communication and society. Shooting (2001; 2002; 2003; 2004; 2005; 2006; 2007; 2008; 2009; 2010; 2011; 2012; 2013; 2014; 2015; 2016; 2017; 2018; 2019; 2020; 2021; 2022; 2023; 2024; 2025; 2026; 2027; 2028; 2029; 2030; 2031; 2032; 2033; 2034; 2035; 2036; 2037; 2038; 2039; 2040; 2041; 2042; 2043; 2044; 2045; 2046; 2047; 2048; 2049; 2050; 2051; 2052; 2053; 2054; 2055; 2056; 2057; 2058; 2059; 2060; 2061; 2062; 2063; 2064; 2065; 2066; 2067; 2068; 2069; 2070; 2071; 2072; 2073; 2074; 2075; 2076; 2077; 2078; 2079; 2080; 2081; 2082; 2083; 2084; 2085; 2086; 2087; 2088; 2089; 2090; 2091; 2092; 2093; 2094; 2095; 2096; 2097; 2098; 2099; 2100; 2101; 2102; 2103; 2104; 2105; 2106; 2107; 2108; 2109; 2110; 2111; 2112; 2113; 2114; 2115; 2116; 2117; 2118; 2119; 2120; 2121; 2122; 2123; 2124; 2125; 2126; 2127; 2128; 2129; 2130; 2131; 2132; 2133; 2134; 2135; 2136; 2137; 2138; 2139; 2140; 2141; 2142; 2143; 2144; 2145; 2146; 2147; 2148; 2149; 2150; 2151; 2152; 2153; 2154; 2155; 2156; 2157; 2158; 2159; 2160; 2161; 2162; 2163; 2164; 2165; 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The National University of Singapore has embarked on a rapid expansion programme and invites applications for teaching appointments to all its faculties: Arts & Social Sciences, Science, Medicine, Dentistry, Law, Architecture & Building, Engineering, Accountancy & Business Administration.

While academic staff will be appointed to all Faculties, recruitment will be stepped up especially in the following departments where larger numbers of staff are required:

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Professor: \$62,190 - \$68,730

(Sigs 1 - \$44.06 approx.)
The commencing salary is dependent on a candidate's qualifications, experience and level of appointment offered.

The Recruitment Unit
National University of Singapore
Kent Ridge, Singapore 0511.

THE OPEN UNIVERSITY
EARTH SCIENCES
NERC RESEARCH
ASSISTANTSHIPS
TROODS DEEP BORE

As part of an international deep drilling project involving scientists from Canada, Cyprus, Denmark, Iceland, UK, USA and W. Germany, a grant has been awarded to Professor J.G. Gass from The Open University and Professor F.J. Vine from The University of East Anglia to study the Troodos ophiolite (Cyprus) by drilling. Funds have been made available to employ two Research Assistants to work on geophysical aspects with Professor Vine (UEA) and petrological/geochronological aspects with Professor Gass (OU); these posts are available from 1st January 1982 for three years. This advertisement is for both posts. Candidates for the Open University Petrology-Geochronology post should hold a good first degree in geology with a specialisation in interest in the petrology and geochemistry of basic-ultrabasic igneous rocks. Candidates for the geophysics post should have undergraduate experience in geophysics and will be expected to investigate the physical properties of bore hole specimens at varying temperatures and pressures. Both candidates will be involved in field studies and be present during some or all of the drilling programme. There may be an opportunity to study for a higher degree. Salary will be within the Research and Analogous 15 scale: £5,286-£7,700 p.a. but not exceeding £8,820 p.a. at the highest point.

Further particulars and application forms are available from the Assistant Secretary (Science), (4223/71), The Open University, Milton Keynes, MK7 8AA or telephone Milton Keynes (0908) 65481; there is a 24 hour answering service on 653883.

Closing date for applications: 31st October.

THE CITY UNIVERSITY
RESEARCH ASSISTANT
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Applications are invited for a post of Research Assistant in the Department of Control Engineering. The successful candidate will be responsible for the day-to-day running of the department's research programme. The post is full-time and involves a high level of responsibility. The successful candidate will be expected to contribute to the department's research programme and to supervise the work of other staff. The post is available from 1st January 1982 for three years. The salary will be within the Research and Analogous 15 scale: £5,286-£7,700 p.a. but not exceeding £8,820 p.a. at the highest point.

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Closing date for applications: 31st October.

THE UNIVERSITY OF SURREY
LECTURERSHIP IN PSYCHOLOGY

Applications are invited for a Lectureship in Psychology. The successful candidate will be responsible for the day-to-day running of the department's research programme. The post is full-time and involves a high level of responsibility. The successful candidate will be expected to contribute to the department's research programme and to supervise the work of other staff. The post is available from 1st January 1982 for three years. The salary will be within the Research and Analogous 15 scale: £5,286-£7,700 p.a. but not exceeding £8,820 p.a. at the highest point.

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Closing date for applications: 31st October.

Universities continued

UNIVERSITY OF ZIMBABWE
Godfrey Huggins School of Medicine

Applications are invited for the following posts:
Professor and Head of Department
of Medical Microbiology
The successful applicant would be Head of the Division of Microbiology within the School of Medicine. Duties will include teaching to Medical and Pharmacy students and supervision of the service work of the Department. Research interests involving microbiology development would be an advantage.

Lecturer/Senior Lecturer in General Surgery
Lecturer/Senior Lecturer in General Surgery (Clinical/Teaching)
Research duties in the Department of Surgery in the School of Medicine. Extensive experience and postgraduate surgical qualification essential.

Salary Scale:
Professor: \$24,000 - \$24 - \$25,620
Senior Lecturer: \$20,100 - \$20 - \$21,500
Lecturer Grade 1: \$17,500 - \$17 - \$18,500
Lecturer Grade 2: \$15,000 - \$15 - \$16,000
(£1 sig. = 21.3176 approx.)

Permanent Part-time Term: Full-time and allowances towards transport of effects on appointment installation loan of up to 25% of one year's salary. Unfurnished University accommodation guaranteed for a period of at least two years for person recruited from outside Zimbabwe. Substantial leave and contact visits (biennial) with travel allowances. Superannuation and medical aid scheme.

Short term Contracts: Family passages and allowances towards transport of effects on appointment. Assistance with accommodation for persons recruited from outside Zimbabwe.

Applications (in duplicate) should be sent to the
Director
Appointments and Personnel
Mount Pleasant, Bulawayo, Zimbabwe

Overseas applicants may obtain further particulars from the Association of Commonwealth Universities (AUCU), 36 Gordon Square, London WC1H 0PF. Applications should be submitted by 15 September 1981.

THE UNIVERSITY OF ZIMBABWE

Applications are invited for the following posts:
Professor and Head of Department
of Medical Microbiology
The successful applicant would be Head of the Division of Microbiology within the School of Medicine. Duties will include teaching to Medical and Pharmacy students and supervision of the service work of the Department. Research interests involving microbiology development would be an advantage.

Lecturer/Senior Lecturer in General Surgery
Lecturer/Senior Lecturer in General Surgery (Clinical/Teaching)
Research duties in the Department of Surgery in the School of Medicine. Extensive experience and postgraduate surgical qualification essential.

Salary Scale:
Professor: \$24,000 - \$24 - \$25,620
Senior Lecturer: \$20,100 - \$20 - \$21,500
Lecturer Grade 1: \$17,500 - \$17 - \$18,500
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Lecturer/Senior Lecturer in General Surgery
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Research duties in the Department of Surgery in the School of Medicine. Extensive experience and postgraduate surgical qualification essential.

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(£1 sig. = 21.3176 approx.)

Permanent Part-time Term: Full-time and allowances towards transport of effects on appointment installation loan of up to 25% of one year's salary. Unfurnished University accommodation guaranteed for a period of at least two years for person recruited from outside Zimbabwe. Substantial leave and contact visits (biennial) with travel allowances. Superannuation and medical aid scheme.

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Applications (in duplicate) should be sent to the
Director
Appointments and Personnel
Mount Pleasant, Bulawayo, Zimbabwe

Overseas applicants may obtain further particulars from the Association of Commonwealth Universities (AUCU), 36 Gordon Square, London WC1H 0PF. Applications should be submitted by 15 September 1981.

THE UNIVERSITY OF ZIMBABWE

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THE UNIVERSITY OF ZIMBABWE

Polytechnics

THE POLYTECHNIC,
HUDDERSFIELDDepartment of Computer Studies and
Mathematics

Ref. ACA 443
Lecturer in Mathematics (2 years had term contract from September 1981).
Applicants should have a good honours degree in mathematics and be able to contribute to a wide range of degree and diploma courses in engineering, business, education and science.

Shifts are expected to undertake activities including research, in addition to teaching duties.

SALARY: Lecturer £24,462 - £30,431
Further details and application forms are available from the Personnel Office, The Polytechnic, Queensgate, Huddersfield HD1 3DH (Tel. 0484 22288 Ext. 2224). The post should be returned not later than 4th September 1981.

THE POLYTECHNIC, HUDDERSFIELD

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Research

INTERNATIONAL MARITIME ENGLISH
RESEARCH PROJECT

Vacancies for two Research Officers: Contracts for 18 months.
1. For a maritime specialist: a master mariner, preferably with additional qualifications and an interest in voice communication at sea. He/she will work with radio, recordings and data-processing equipment (training will be given). Considerable travel required. The post will be based at the Department of Nautical Studies, Plymouth Polytechnic; under Captain F. F. Weeks. Secondment from a shipping firm might be appropriate.

2. For a language specialist: a graduate, with additional experience in Applied Linguistics and/or English as a Foreign Language. Research experience essential; also willingness to work with computer-based procedures (training will be given). Some travel will be required. The post will be based at Wolfson College, Cambridge; under Professor P. Sirevans.

Both posts are envisaged as broadly equivalent to upper end of University Lecturer, or exceptionally, Senior Lecturer. Salaries: between £9,000 and £11,000 according to age, qualifications and experience.

For further particulars apply to:
Language Management
Quality House
Quality Court
Chancery Lane
London WC2A 1HP
Tel: 01-242 9806

Closing date for applications: September 14, 1981.

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Research duties in the Department of Surgery in the School of Medicine. Ext

Official Appointments

Chief Economic Adviser

£25,113

The Greater London Council is developing its role in stimulating London's economy. To assist it to become an active and major force in regenerating both employment opportunities and their industrial base, an Economic Policy Group is being set up. Initial tasks of this new group will be to draft the London Industrial Strategy and the London Manpower Plan - keystones of the Council's approach to reversing the crisis of urban decay.

The Chief Economic Adviser will lead the Economic Policy Group. Supported initially by three senior policy assistants and in conjunction with the Council's research and intelligence staff, he/she will advise on major policy options and provide innovative approaches to the achievement of policy objectives. He/She will also monitor performance against the London Industrial Strategy and the London Manpower Plan and will liaise and work with the numerous organisations, both public and private, that are currently concerned with economic policy and research.

An important duty, in co-operation with the Council's programme review staff, will be to co-ordinate the Council's activities generally with the policies on industry and employment, and to evaluate the effectiveness of the work undertaken.

GLC

Working for London

Director-General's Department

While academic qualifications will be regarded as an important factor, significant emphasis will be placed upon practical experience. The person appointed to this key position will probably have had substantial experience at a senior level of a relevant industrial or economic nature in at least one of the following areas:

- local authority (or other public agency) industrial development
- nationalised industries
- co-operative development
- trades unions
- management of productive enterprises
- academic work

He/She will be able to demonstrate a track record of achievements in the industrial and economic developments sphere.

The salary indicated is currently under review and includes London Weighting Allowance. This appointment may be made on a fixed term contract basis for a maximum of four years.

For an application form, which must be returned by 11 September 1981, and further details write to: Senior Officer Appointments, Ref MP/TH, Greater London Council, Room 334A, The County Hall, London SE1 7PB, or telephone 01-633 7230/8685.

Western Australian Institute of Technology

School of Computing and Quantitative Studies

SENIOR LECTURER - MANAGEMENT INFORMATION SYSTEMS (Ref. 3048)

Take a leading role for management information systems teaching and research in undergraduate and postgraduate courses for students qualifying as computer professionals or in other business spheres. Applicants must have practical experience in management information systems analysis, design and application in manufacturing, other industries or commerce. Tertiary teaching experience an advantage.

School of Accounting

SENIOR LECTURER (Ref. 404)

Teach at undergraduate and postgraduate levels. Provide leadership in academic, administrative and applied research areas, and in liaison with the profession. Relevant higher degree and tertiary teaching experience in accounting and/or auditing essential. Experience, preferably at a senior level, in industry or the accounting profession also required.

School of Management

SENIOR LECTURER - ORGANIZATIONS (Ref. 406)

Plan, co-ordinate, develop and teach in the organizations area at undergraduate and postgraduate levels. Share in the School's administrative functions, and contribute to research and consulting activities. Relevant higher degree, at least five years experience in industry/research/consulting and in tertiary teaching required.

School of Art and Design

SENIOR LECTURER - FINE ART (Ref. 412)

Develop and co-ordinate studies in printmaking or painting within an interdisciplinary programme at first degree level, teach in area of expertise, and provide academic and administrative leadership in area of responsibility.

Also participate in developing relevant theoretical studies, supervise relevant postgraduate studies and promote the discipline within the School and wider community.

Visual presentation, preferably colour slides or colour prints of applicant's personal and professional work should accompany applications. Salary Range: \$28,593 - \$30,885 (\$Aus)

Qualifications: Senior Lecturer - a relevant higher degree and considerable experience, including tertiary teaching (preferably in the field of Fine Art). Candidates with lesser qualifications will be considered at other than the advertised level. Tenure: These positions are available with permanent tenure, except Ref. 412 Fine Art which is available on a limited term basis, initially for a maximum of three years. Conditions include for applicants and family plus some assistance with removal expenses. Superannuation is available for staff with Permanent Tenure. Return fees are provided for staff appointed for a Limited Term. Applications: Details including names and addresses of three referees should be submitted in duplicate not later than 11th September to the Human Resources Office, Western Australian Institute of Technology, 111 Sturt Street, Perth WA 6001, from whom a brochure containing further information may be obtained. When applying please quote position reference number and media only HES.

ORANGE AGRICULTURAL COLLEGE

New South Wales

A College of Advanced Education

Academic Vacancy

Senior Lecturer/Lecturer in Horticulture (OAC81/3)

The position requires a person who has a sound knowledge of applied horticulture with specialisation in temperate orchard crops and/or commercial vegetable production.

The appointee will be expected to play a major role in the development of horticultural production and management subjects in the proposed Associate Diploma in Horticulture course.

Applicants must possess an appropriate degree or equivalent tertiary qualifications and experience in lecturing, consulting and other relevant areas.

Salary: Senior Lecturer: \$42,901 range \$44,264 - \$46,627 Lecturer: \$32,185 range \$33,548 - \$35,911

Assistance with relocation expenses and short term accommodation may be available in certain circumstances.

Further information is available from R. H. B. Tonkin, Director Academic Programmes, Orange Agricultural College (telephone 06 62 4699).

Applications should include the names and addresses of three referees and be made on form 88 which is available from and must be returned to, the Secretary, Orange Agricultural College, P.O. Box 90, Orange NSW, 2800 Australia by September 18, 1981.

Overseas Continued

UNIVERSITY OF CAPE TOWN

Junior Lecturer in Geology

Applications are invited for the above post, vacant as from 1st January 1982. Appointment, according to qualifications and experience, will be made in the salary range R610-R870 per annum. The successful candidate will be required to give lectures and practicals carrying a total contact load of approximately 100 hours, either spread throughout the year or concentrated in one semester. The position is suitable for a graduate who wishes to engage in independent research in the department, or is a recent graduate wishing to register in the department towards a higher degree. Appointment is made on a year-to-year basis, and is normally renewed annually.

Those candidates with special interests in any of the sub-disciplines of geology will be considered, and selection will be given to candidates with experience and interest in sedimentology and/or the economic geology of sedimentary deposits.

Applicants should submit a curriculum vitae, stating present salary, research interests and publications, what available if applied, and the names and addresses of three referees.

Further information should be obtained from the Head, Department of Geology, University of Cape Town, Rondebosch, 7700. Closing date 12th October 1981 but applications may be accepted after this date.

The University's policy is not to discriminate on the grounds of race or religion. Further information on the implementation of the policy is obtainable from the Registrar. THS12

Colleges of Technology

GLoucestershire COLLEGE OF ARTS AND DESIGN

Applications are invited for the following posts for which the closing date for applications is 1st September 1981 or 1st January 1982.

Department of Mathematics and Computer Studies (based at Cheltenham)

1. PRINCIPAL LECTURER in Quantitative Techniques and Computing. A broad knowledge of computing applications and experience in the use of staff in a specialist area are required. Applicants with experience in quantitative techniques and computing field particularly welcome.

2. LECTURER II in Computer Systems. A sound knowledge of computer systems and experience in the use of staff in a specialist area are required. Applicants with experience in computer systems and computing field particularly welcome.

Department of Management and Business Studies (based at Cheltenham)

SENIOR LECTURER in Accounting from 1.1.82. Broad knowledge of accounting and experience in the use of staff in a specialist area are required. Applicants with experience in accounting and computing field particularly welcome.

Further details and application forms (to be returned within the application) may be obtained from the Chief Administrative Officer, Gloucestershire College, Cheltenham, Gloucestershire GL53 7JL, telephone 0453 53331.

KENT COLLEGE OF TECHNOLOGY

DEPARTMENT OF ELECTRONICS

Required as soon as possible: Lecturer Grade 1 in Electrical Engineering (Electronics Branch). Salary scale £20,000 - £26,000 p.a.

To teach Electrical Engineering, Electronics and Computing. The successful candidate will be required to give lectures and practicals carrying a total contact load of approximately 100 hours, either spread throughout the year or concentrated in one semester. The position is suitable for a graduate who wishes to engage in independent research in the department, or is a recent graduate wishing to register in the department towards a higher degree. Appointment is made on a year-to-year basis, and is normally renewed annually.

Applicants should submit a curriculum vitae, stating present salary, research interests and publications, what available if applied, and the names and addresses of three referees.

Further information should be obtained from the Head, Department of Electronics, Kent College of Technology, Canterbury, Kent CT1 3BJ.

Closing date for applications 18th September 1981. HES

All advertisements are subject to the conditions of acceptance of Times Newspapers Ltd, copies of which are available on request.

Classified Advertisements

To advertise in
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phone Lorraine
Williams
on 01-837 1234,
Extn 575.

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Haywards Heath
West Sussex RH16 3DH



Australian Maritime College

Applications are invited for the following positions within the Department of Nautical Science. Appointments will be made for the beginning of 1982 and/or mid-1982.

LECTURER/SENIOR LECTURER II (Naval Architecture)

DUTIES: Include administration and further development of the Nautical Science diploma and degree courses, teaching in these and other courses, and the commissioning and supervision of the College's ship model towing tank installation.

QUALIFICATIONS: A degree in naval architecture or other equivalent qualification. The applicant should preferably have a ship design or shipyard background. Experience in design and construction of fishing vessels and teaching experience would be advantageous.

LECTURER II or III (Sea Transport)

DUTIES: Include teaching within the sea transport area in the degree and diploma courses in Nautical Science and other courses.

QUALIFICATIONS: Preference will be given to holders of a tertiary qualification in transport or transport-related business studies. The applicant should have a shipping background with experience in shipping management, chartering, shipping conferences, or shipping law. Teaching experience and membership of the Chartered Institute of Transport would be advantageous.

LECTURER II or III (Nautical Science)

DUTIES: Include teaching within the navigation and hydrographic survey areas in the Nautical Science diploma and degree courses, and the development of further hydrographic survey studies including a post-graduate diploma course.

QUALIFICATIONS: Preference will be given to holders of a tertiary qualification in Nautical Science or other equivalent qualifications, with hydrographic survey major. The applicant should have experience in navigation and survey work; teaching experience would be advantageous.

SALARIES: Senior Lecturer II: \$28,593 to \$28,474 Lecturer I: \$23,185 to \$28,038 Lecturer II: \$18,821 to \$22,561 Lecturer III: \$17,083 to \$19,570

GENERAL: Reasonable relocation costs and settling-in allowances are payable. Superannuation benefits are available under the provisions of the Australian Government Superannuation Scheme.

Applications, which should include full details of qualifications and experience, should be forwarded to: The Staff Officer (Applications), Australian Maritime College, P.O. Box 986, Launceston, Tasmania 7250, by 30th September, 1981. THS12

ABHA Faculty of Medicine & Health Sciences ABHA - SAUDI ARABIA

A new Faculty of Medicine, under the auspices of the University of Riyadh, is being established in the mountainous south-west region of Saudi Arabia. The first intake of students is planned for September 1982.

An exciting and challenging opportunity is offered in an attractive environment with an equable climate. Responsibilities will include participating in the commissioning of the school and teaching in the Bachelor Degree programmes.

Applications are invited to fill the following posts as Professors, Associate Professors or Assistant Professors. For the Junior posts, the grade on which the candidate is appointed will depend upon qualifications and experience. Applicants should have a Ph.D. or equivalent qualification or they should occupy a similar position in their current employment.

Biology:	Professor
Chemistry:	Associate or Assistant Professor
Physics/Mathematics:	Associate or Assistant Professor
Behavioural Sciences:	Professor
Family & Community Medicine:	Associate or Assistant Professor
Health Planner:	Associate or Assistant Professor
Epidemiologist:	Associate or Assistant Professor

(Degree in public health. Bilingualism preferred.)

The following staff are also required:

Computer Manager: An IBM System 34 has been purchased. The manager will be expected to prepare and run programmes, initially in support of the Faculty administration, but increasingly to assist research work in community medicine.

Librarian: The successful candidate will be expected to start up the library. He will be responsible for devising appropriate systems (including the use of microfiche) and for purchasing books and journals to sustain both teaching and research programmes (the latter principally in community medicine).

Salaries and Fringe benefits: Highly competitive salaries will be offered according to qualifications and experience. Benefits include free furnished accommodation or an accommodation allowance, local transport allowance, educational assistance for up to four children, paid 60 days holiday, round trip to place of origin once a year (including family) and terminal gratuity. Details will be sent on request.

Method of Application: Application with a comprehensive curriculum vitae and addresses of 3 referees to be sent to: Dr. A. J. Davison, Saudi Arabian Educational Office, 29 Belgrave Square, London SW1X 8QB.

Interviews will be held in the Autumn. Senior academics and the librarian should be at post in January 1982; other candidates not later than September 1st, 1982.

Don's diary

Friday

Classes are now over, but in what they call the "lecture-free period" administration continues undeterred. Dutch universities have undergone a strenuous process of democratization in the last decade, and as one who has arrived in Holland since that time, I sometimes feel that all my working hours are spent, when not teaching, in meetings of various kinds. Though there will never be a return to the old autocratic days, proposed legislation relating to university administration does seem likely to trim down and streamline the decision-making and advice-giving machinery, and to reduce the number of student representatives. Now that the generation of 1968 is part of the bourgeoisie (and of history), students in 1981 practically have to be press-ganged into their democratic responsibilities.

Lunch-time conversation is almost entirely devoted to Amsterdam's TV pirates, who have slotted effortlessly into the new cable network, and who transmit without restraint into the small hours. Apparently, all you have to do is to stay tuned to the second Belgian channel. I listen enviously, being a resident not of Amsterdam but of Leyden, where cable has somehow missed our flat, and where the local pirate was recently hauled in anyway after an unauthorized transmission of *Deep Throat*. Later in the day, bowling home along the 25 miles of motorway towards Leyden, I look forward to next week, when the long-awaited railway line connecting the Hague and Schiphol airport opens, enabling me to make my journey by train.

Saturday

Fine weather, so a stroll round Leyden's market, the sight of which, with its cheeses, fish, vegetables and flowers, never fails to fascinate me. The actual business of buying things is another matter; there is something about the Dutch approach to queuing which, even after five years, I feel I still haven't quite grasped. Fortunately my wife, with a lifetime's experience of it behind her, responds to the challenge.

Sunday

Everyone gets up so late that even at 11 a.m. on a walk to the station to collect the Sunday newspaper, I encounter scarcely anyone. A day of immersion in the fiction of Muriel Spark, in preparation for an article.

Monday

Together with the colleague who has shared the expenses of the car journey to work for the last couple of years, I board the train to Amsterdam South for the first time. We rationalize our desire for luxury by convincing ourselves that it's easier to work in a first-class compartment. Accordingly, we begin to discuss the first-year Renaissance course we have both been teaching by way of experiment this year, and whether it has been enough of a success to warrant our continuing with it, in unchanged form, after the introduction of the two-phase structure in 1982. This controversial piece of legislation is occupying much of our time at the moment; its aim is to speed up university courses by allowing in theory no more than four years to be spent acquiring the doctoral degree, roughly in standard to a (taught) MA in Britain.

As the almost empty train rushes across the polder we are served coffee, and I try to imagine a greater possible contrast between this efficient luxury and the sweaty rush-hour horrors of the Northern line. Various appointments with students during the day, including discussions of two very good papers, on *Paradise*

Lost and on King's Exequy. At one point, glancing out of my tenth-storey window, I see the enormously long royal train, attended by a phalanx of helicopters, approaching Amsterdam South as the railway line is now officially declared open. A late afternoon offer of a *borrel* is gratefully accepted, and as inroads into the bottle of *long Geneva* are made, the more fruitful implications of not having to drive home begin to impinge on the consciousness. On our return journey, every single first-class seat is taken. Each executive-looking occupant is clasping a carrier bag with a picture of Schiphol airport on it, and each is in possession of a single pink rose.

Tuesday

Work at home today since, amazingly, there seems to be nothing about which to meet. I desultorily address myself to a pile of essays which has been building up steadily over the past few weeks, and in the intervals between essays meditate on a prospective fifth-year course on Henry James's narrative technique.

Wednesday

At work, one or two departmental stalwarts are missing, and it transpires from the shattered survivors that Amsterdam's pirates have transmitted what is even by their standards an unusually torrid night's viewing. Closedown appears not to have been until after 5 a.m. Those of us who are left, meanwhile, gloomily discuss the implications of Mrs Whitehouse's latest antics on the future of the theatre in Britain. A circular from the faculty reminds us that more than three days' absence from the department should be reported, and that from nine to five during the lecture-free period all staff, when not actually on vacation, are expected to be available by telephone, either in their office or at home.

This seems fair enough; closer scrutiny of the circular, however, reveals that "spot research" carried out in 1972 indicated that more than 30 per cent of university staff were inexplicably absent during office hours in a given period of three consecutive days. Colleagues with long memories now cast their minds back and recall mysterious telephone calls, and lines going dead as the receiver was picked up. It seems that we are now reaping the fruits of years of abuse of "academic freedom", but it does at the same time seem curious that research carried out nine years ago should be needed to drive the point home.

Thursday

The faculty having been duly informed we begin to make preparations for a weekend in England in order to attend my brother's wedding. I plan to stay a few days extra in order to visit the British Library and to confer with a friend who recently lost his job as an academic publisher, but who is kindly giving me invaluable advice on placing a scholarly monograph. Neither of us needs to be reminded how bad times are for academic publishing, but we will be planning a course of action nonetheless. Even if disappointment should arise on this score, there is the prospect of proper beer and the prospect of a weekend in England which have been forgotten. Having that nothing vital has been forgotten, we are on the road by mid-afternoon, on schedule for the 7 p.m. Zeebrugge-Dover ferry.

Richard Todd

The author is a lecturer in the Department of English Language and Literature at the Free University, Amsterdam.

I have always had a fascination for graveyards, partly through experience, partly through literature. Few accounts were more moving when I first read them than the beginnings of *Great Expectations* or the end of *Bleak House*. I have wandered around cemeteries in Austria, with silent old women tending the graves and bringing fresh flowers to the centre of old villages. I have visited the famous Forest Lawn Memorial Park in Los Angeles and seen the replica of the church in which Annie Laurie worshipped and the faithful copy (it says) of the church at Stoke Poges. And I have spent many hours drawing the evocative stone monuments along the walls of the Greyfriars Churchyard in Edinburgh and the graveyard on Clons Hill.

But nothing, even after reading about them, advances quite preoccupied me for the graveyards of the 1914-18 war, closely dotted in the most astonishing profusion on the map of northern France issued by the Imperial War Graves Commission (now renamed). The 580,000 identified and 180,000 unidentified graves lie mainly along the line of the Western Front. In 1919, there were over 1,200 cemeteries. There are still more than 900 separate cemeteries - cemeteries, not graves.

I went there with a camera team making a film on Sir Edwin Lutyens, possibly the greatest architect this country has ever produced, the designer of Imperial Delhi and the Cenotaph, as well as about 600 other items. He was called in to advise in 1917 what to do after the slaughter of the trenches.

He was responsible for the great War Stone, the centre piece of each cemetery, specified by him as "one great stone of fine proportions, 12 feet in length, lying upon three raised steps, of which the first and the third shall be twice the width of the second." Along with the War Stone, each cemetery contains the free standing Cross of Sacrifice, designed by Sir Reginald Blomfield, a surprisingly sensitive design from the hand of the man who was responsible for the Hendon in Leeds.

What is not so obvious about the War Stone is its architectural sophistication. It is a simple slab of stone with the words "Their Name Liveth for Evermore" on the side, chosen by Kipling from Ecclesiasticus. But every vertical surface is slightly sloped, so that they would all meet a thousand feet up in the air if projected, and every horizontal surface has a curve with a radius whose centre is about a thousand feet under the ground.

The English cemeteries (two of the most beautiful are at Etaples, with its two great stone pavilions made of catafalques and sarcophagi) and the little cemetery at Corbie) are calm and restful. The French, with their greater losses and even more

Celebrations of death and human folly



Patrick Nuttgens

traumatic moments (*ils ne passeront pas*) had no alternative but to place even more unidentified bodies in mass graves. At Verdun, the scene of the most fantastic slaughter, as well as concentrated slaughter, with more than 200,000 unidentified bodies, they built in the centre of the battlefield at Douaumont the Ossuary, a gigantic barrel-vaulted structure about 140 metres long, with a huge tower in the centre.

That description is based on a remarkable book by James Stevens Curll published last year, a study of funerary architecture in the Western European tradition, sparingly entitled *A Celebration of Death*. I reviewed it at some length for *The Times*, and anyone who reads that paper will know the high opinion I formed of the book. Here is what he says about the Ossuary:

"This astonishing, horrifying and melodramatic building is one of the most anguished celebrations of death it is possible to conceive. The immensity of the slaughter is reflected in the memorial, and the jagged, rasping qualities of this extraordinary work of architecture abide with the visitor. It is a calamitous and agonizing experience to go to Douaumont."

We could not get to Verdun. We were in France specifically to film the great arch at Thiepval, expressing (again in Curll's words) "the stupefying losses in war", and inscribed "To the Memory of the Missing of the Somme". It was begun in 1928 and finished in 1932.

The Thiepval arch is also by Lutyens and is considered by some cri-

tics to be his finest work. It is enormous, over 140 feet high, and is a fantastic complex of piers, arches, of Flemish red bricks tumbled and defined with white Portland stone. Instead of making a straight forward slab or plinth to record the names, Lutyens seized the opportunity to create by means of a complex of interpenetrating arches the mass of surface area on which to record the names. The arches, each one progressively wider and taller than the last, rest on four groups of four square piers, so that there are 64 faces to the piers altogether. Each face is covered with flat Portland stone to about 12 feet in height. And on those faces are carved the names of the 73,357 soldiers whose bodies were not discovered after the battles of the Somme.

I made a drawing of the thing while we were there and it may appear on the television film as I try to describe and account for the monument. To my surprise and distress, I discovered it to be much less moving than I had expected from all the accounts I had read and the photographs I had studied. It is the most impeccable piece of dimensionally coordinated design. Lutyens had a passion for the mathematics of architectural proportions and every dimension is precise, mathematically related to the next one. Each by scene meets the entablature that runs across the wall and then becomes the springing for the next arch in ascending order and usually at right angles on plan. The whole thing is an amazing three-dimensional entity.

And yet it all seems like a bit of a huge bit - of London, dropped at that hillside in Flanders and cutting avenues in each direction through the trees that carpet the site. In this sense it is utterly bizarre. And ridiculous? Perhaps it should be. For the impression of the monument as a whole is nothing compared to the emotional tension of wandering through the spaces under its arches and looking at list after list of the names, arranged under the titles of regiments and recording officers' names together, as together they died. The wind blows through the great brick and stone arches, puffing the mown grass that sweeps away from the plinth and seems to say and say nothing.

For there is really nothing to say. There is only, under the great mass, a great emptiness. And that is incredibly moving. What did the spend their lives for, the hundreds of men who, for example, got only 10 yards from the trenches before being piled up by machine gun fire? It is a fitting memorial to folly. I suspect Lutyens did not intend that; but he could hardly have created a more fitting memorial to the folly of human arrogance.

Responding to the needs of industry



Keith Hampson

"Publish or perish". This is the maxim on which generations of American academics have been weaned, and it will no doubt soon become a reality in this country, as the economy bites into the traditional of tenure. So what happens to all those much vaunted intentions of making higher education more relevant to the needs of industry? The non-humanities side of higher

education has always been crippled by an over-concentration on published papers. Even CHAA scrutiny of polytechnic courses seems to me to pay as much attention to publication as to practical work in industry. Heaven help us if the British publish and the rest of the world's industry crib the results.

This may be an irrelevant - but not an irrelevant - reflection when the Government's protracted deliberations on the Finniston Report have at last produced a chartered Engineering Council and a chairman. Is it the nature of British employers, the intransigence of the professional engineering institutions, the vilification of manufacturing activities in the schools, or - as an article in *The Times* argued recently - the nature of British capitalism that has made the rejuvenating of manufacturing industry so difficult to achieve? Academic apologists may point to one or all, but attitudes in higher education are pretty central to the problem.

The greatest single problem, I suggest, lies firmly in the universities' court. Engineering is regarded as a more branch of science. For decades, the emphasis has been on pure science regardless of its practical exploitation and on lumping engineering research funding under the Science Research Council has been disastrous for the country's economy. Finniston was absolutely correct in identifying the need to transfer funding to a new Engineering Development Council. Many, innovative projects seem to

lose SRC support because they are neither clearly science nor pure research, and so never reach the stage of industrial application because there are no funds to develop them to the point of recognized commercial viability. The SRC itself highlighted this gap back in 1975. It is unrealistic for Peter Copping to expect *THESE* to expect cost-conscious management to be more receptive to "long-term, high risk schemes" or "long projects can be developed to the point of success."

The new Engineering Council is a much watered down version of what many of us had hoped would emerge from Finniston and has no effective sanctions over the profession, but time its accreditation powers are used to have a telling effect on standards. But it will be the allocation of money that will have the most immediate and valuable consequences. If SRC and Department of Industry funds should be rerouted to engineering projects by an industry-developed Engineering Research and Development Council.

The DES calls for industry to involve itself in an active partnership with educational establishments, with incentives can be offered. But what incentives can be offered? We have to look at the appalling percentage of industrial placements that sandwich students into action and turn sympathy into action. We require some direct inducement, something that is also still sadly lacking in the part-time and continuing education fronts.

LETTERS TO THE EDITOR

Graduate employment as a measure of success

Sir, - Your leader Counting jobs isn't everything (*THESE*, July 31) is the most brilliant example of damning by innuendo that I have read for a long time. You ostensibly pose a set of questions, in themselves quite valid, which require answering if the employability rate is to be used as one component in measuring the success of a university.

You assert, without evidence, that the employability rate measures the subject balance within institutions. There is, in fact, a weak correlation between employability rate and the arts/science student ratio of an institution but, as you surmise, the wide scatter requires explanation. The best answer you can provide rests upon assumptions about graduate job expectations plus the ability of industry to know what type of graduate it really needs. It is doubtful if your putative science student, coming from a department with very high academic standards, taking three to six months to acclimatize himself to industry and therefore not appearing in the employment statistics, really exists. Firstly, since recruitment starts early in the year and as the employment statistics refer to the following December any student has nearly 12 months to become acclimatized. If he takes that long he both lacks initiative and is too inept to make a good research scientist anyway. Secondly, on what grounds can you imply that the research standards of industry are

necessarily lower than those of universities? If your student believes that the only worthwhile and challenging research is to be found in universities then one can only doubt the quality of the teaching he has received.

Industry recruits graduates for two functions. One is immediate, namely, to be of use in the short to medium term. The second is long term and requires that the new graduate display future management potential. This latter quality is difficult to assess and may only manifest itself after a period of time by when the effects of university teaching may well have been overlaid by industrial experience. Industry can identify those graduates capable of fulfilling its short and medium term requirements and for these industry does know best. If not, why are sandwich course students so popular?

However, what worries me most about your leader is not the questions themselves, but the attitude of mind displayed by the manner in which they are posed. On what basis do you assume a necessary contrast between a department of very high academic standards, with a reputation for research, and one which mostly offers sandwich courses in strictly vocational subjects (unlike, of course, medical and legal departments)? Might it not be possible for a vocationally orientated department to carry out excellent research? An "eye-catching gadget invention" (why

gadget?) can be as good an indicator of excellent research as an eye-catching paper on, say, the origin of the Thesaurus myth. You might ponder on a quotation attributed to Hardy (the mathematician, not the writer): "You know this applied science is just as interesting as pure science, and what's more it's a damned sight more difficult." This country needs more, not less, of both types of research and teaching since they are interdependent.

Yours faithfully,
G. GOOBERMAN,
Senior lecturer in electronics, University of Salford.

Sir, - Your leader "Counting jobs isn't everything" said some sensible things about the danger of placing too much emphasis on the ready employability of graduates. At the same time it was an alarming revelation of your ignorance of elementary facts, because of your evident and repeated assumption that "employment" is synonymous with "industry". The briefest glance at the figures shows how ludicrous this is. From the latest published statistics, those for 1978/9 graduates, we see that, in round figures, 30,000 first degree graduates of that year entered employment, but of these only 10,500 entered industry (broadly defined to include public utilities, transport undertakings, the NCB and the UKAEA). If commerce is included (and this means chartered

accountancy, banking, insurance and "other commerce") the total only rises to 17,400. So over 40 per cent of those graduates entering employment in that year went elsewhere than to industry and commerce.

It follows that those who are defined as "still seeking employment or a place on a course of further study or training" - please note the full specification - have not merely rejected or been rejected by industry; they have apparently temporarily rejected, or been rejected as workers, by the whole of the society of which they are a part - in further study, training or research at home or overseas, in government service, local government service, the professions, the employed arts, the social services, voluntary work at home or overseas etc as well as industry and commerce. And this is the position rather more than six months after finishing their final examinations, a period which even in your eyes should be sufficient for most of them to "purge themselves of hopeless ambitions".

Seen in this light no university should be particularly happy about a high "unemployment" rate among its graduates. And who is to argue that the taxpaying or the Government which *inter alia* takes such figures into account is wrong to do so?

Yours faithfully,
BERNARD HOLLOWAY,
Careers and Appointments Service, University of Manchester.

testing our own privileges than in working for their extension to others, we have no business to be in the university world. Elaborate justifications of tenure in *THESE* articles are a waste of time, unless they are coupled with the recognition that the attack on tenure is only part of a wider and deeply immoral attack on the availability of advanced education to the general public, which itself - as John Biffen's speech on August 10 made clear - is part of an attack on the living standards of the majority in the interests of a small minority. To the present Government, tenure is just another name for overmanaging, and job loss in the universities serves the same purpose as job loss elsewhere in the economy. Resistance to it involves far more awareness of political realities and power relations than some of our colleagues have so far been willing to develop. Christopher Price's article in the same issue offers a mature and sensible account of these realities, and the way to start dealing with them.

Yours faithfully,
JENNIFER BIRKETT,
Department of French, Dundee University.

If we are more interested in pro-

ducing a unit costing for a given production environment and then proceeds to accrue the several 'costs' of this environment to a single production system and divides by the number of units produced. Thus in a factory producing nuts and bolts on two separate production lines it is possible to accrue all the costs of the factory to one or other of these lines and produce a unit cost for a bolt and a unit cost for a nut. No honest financial accountant (if there is such a thing) would start his unit costing calculations by dividing the total factory cost by the total number of nuts and bolts.

It is theoretically possible to do unit costing in an institution like a polytechnic by dividing all its costs among identifiable cost centres, that is, courses, and then divide these totals by the number of FTE students on each particular course. No doubt the results of such an exercise would be very enlightening. However, it would also be rather expensive in administrative terms, and would probably be beyond the expertise of most polytechnic management structures.

Yours faithfully,
TIM DAWES,
Senior Systems Analyst, The Computer Centre, The Polytechnic, Wolverhampton.

Letters for publication should arrive by Tuesday morning. They should be as short as possible and written on one side of the paper. The editor reserves the right to cut or amend them if necessary.

Excellent idea

Sir, - Would it be possible for you to carry out a survey of your readers for the purpose of defining the enigmatic topography of a "centre of excellence"? May I suggest a poll based on the inquiry: which of the following descriptions best fits a centre of excellence?

(1) a "black hole" for financial resources;

(2) the vanity box of an FRS;

(3) an outpost of the "military" in-

ustrial complex"; department of (4) aghastly converting gold into an instrument manufacturer's catalogue;

(5) a "field of research" circumscribing a fetishistic totem presided over by a member of the academic priesthood;

(6) a eugenics hatchery for PhDs.

Yours faithfully,
L. SHIELDS,
School of Studies in Chemistry, Bradford University.

Threat to tenure

Unit costing

Sir, - I read your news piece on the introduction of unit costing to polytechnic finances (*THESE*, July 7). The misuse of established technical terms to mislead those unfamiliar with them is a common tactic of civil servants. Mr Delany and others at the DES are fond of describing the methods they use to turn the statistics received from institutions, of which they have no detailed knowledge of their cost accruing arrangements, as unit costing. What they are doing, in fact, is taking the total cost of an institution and dividing this by the total number of full-time equivalent (FTE) students and then weighting the results to take account of different types of study (on the basis that on average they estimate a science degree to be 1.7849 times, or whatever, as expensive as an arts degree). This method, whatever you might call it, is certainly not unit costing.

Unit costing starts from the principle that the unit should have a production environment and then proceeds to accrue the several 'costs' of this environment to a single production system and divides by the number of units produced. Thus in a factory producing nuts and bolts on two separate production lines it is possible to accrue all the costs of the factory to one or other of these lines and produce a unit cost for a bolt and a unit cost for a nut. No honest financial accountant (if there is such a thing) would start his unit costing calculations by dividing the total factory cost by the total number of nuts and bolts.

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Union View

Discussing unanswered questions

The immediate dust has now settled following the publication of the Government's Green Paper on the policy, funding and management of higher education in the public sector. It is, of course, a debate that has continued virtually unabated since the Oakes Report first appeared, but it has been given increased urgency by present financial constraints and by the over-increasing tension between central and local government. Indeed, there is a great danger that the debate will never focus on the issues facing higher education and that the alternative proposals set out in the consultative document, model A and model B, will simply come to represent local government versus central government, with protagonists in the debate ranging themselves accordingly. Perhaps this is inevitable, but it is a great pity.

The Government itself must take a major responsibility for this state of affairs. After such a lengthy period of gestation, a slender 10 pages form the main burden of the report. The local authorities were obviously sufficiently incensed to issue their own consultative paper, but their document also bears all the hallmarks of over-hasty preparation. These, however, represent the choices before us, and one has to respond accordingly.

The most worrying aspects of the Green Paper are, in many respects, those matters on which it remains silent. The Government acknowledges that if a new sector of higher

education were created (as in model B), some of the existing institutions would be excluded. The document says: "On this basis, excluded institutions - financed under separate arrangements - would account for about 15 per cent of all full-time and sandwich students, and about 20 per cent of all students on advanced courses." What separate arrangements are envisaged the Government doesn't say. It merely notes that under model B it would be necessary to make arrangements for the funding of non-advanced work in colleges whose advanced work was funded by the central body, and conversely for the funding of the limited (i.e. 20 per cent) amount of advanced work done in institutions outside the control of the central body.

Yet at the same time the document acknowledges that there are strong educational and organizational reasons for not separating advanced and non-advanced work in colleges. This has always been a cornerstone of *Natfhe* policy - as of almost all those who understand further and higher education in the public sector. The educational and organizational benefits which derive from this unity are incalculable, yet model B would abandon the principle.

Then there is the major issue of accountability. Under the Government's proposals the institutions, newly created as corporate bodies, would be responsible directly to the national body, which in turn is responsible to the Secretary of State. To what extent can a non-representative national body, ever properly accountable? One suspects that, like the UGC, as long as they managed within an overall budget, and as long as the institutions did likewise, no one would question their educational judgments.

There are too many unanswered questions for the debate to be sensibly conducted. But the onus lies with the Government. To end both existing channels of administration and accountability via local authority involvement and the unity of further and higher education is a major and potentially devastating change. *Natfhe* for one believes the Government have not made out a case.

Jean Bocock

The author is the assistant on page 3 for higher education.

Sir, - Your report about *Matthew Arnold: A Life* errs in stating that I found in New Zealand a letter about Mary Claude and then published it. A letter of June 14 1849 by Matthew's brother Tom, referring to Mary Claude, was published by James Bertram in *New Zealand Letter of Thomas Arnold the Younger* in 1966. This was the starting point for my research, which owes much to James Bertram's prior work.

Yours sincerely,
PARK HONAN,
School of English, University of Birmingham.

Elite study

Sir, - We have been asked by Methuen publishers to write a book on the practice of interviewing people eminent in their respective fields (*elite oral history*). This book will be the first of its kind in Britain to discuss a major and rapidly expanding area of scholarly research.

We would be very grateful indeed to hear from anybody with experience either of interviewing *elite* figures as part of their research or of establishing an archive containing interviews with such people.

Yours faithfully,
ANTHONY SELDON,
JOANNA PAPFORTH,
1 Florence Villas, Holmesdale Road, London N6.

Matthew Arnold

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